

**Rico Surface Water Sampling
Supplemental Surface Water Quality Monitoring
Rico, Colorado
Data Summary Report**

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November 2011

Rico, Colorado
Surface Water Sampling Report
November 2011 Sampling Event

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1.0 Introduction

In accordance with the Rico Sampling and Analysis Plan for Supplemental Surface Water Quality Monitoring at Rico, CO prepared by AECOM, dated November 2010, the surface water sampling event was completed on November 9th – 11th, 2011. Sampling was completed by Anderson Engineering Co. Inc., by technicians who are familiar with the Rico sites and the BP Control of Work Management System. Surface water samples were collected from prescribed locations within the St. Louis settling pond system and at the system discharge (002) to the Dolores River (collectively referred to as the St. Louis pond system), and previously sampled locations along the Dolores River above, at and below the St. Louis pond system. Figure 1 and Figure 2 (see Appendix A) illustrate the location of the various sampling stations along the Dolores River and in the St. Louis pond system. Figure 9 in Appendix A illustrates the locations of the twelve monitoring wells being sampled. Sample results are summarized and laboratory analytical results are attached with quality control documentation.

2.0 Field Sampling

2.1 Sampling Frequency

The sampling period represented by this sampling event is for the month of November of 2011. Sampling will be performed on a monthly basis until at least April of 2012

2.2 Water Quality and Flow Measurement Sampling Locations

Samples were collected from the locations described on Table 1 and shown on Figure 1 and Figure 2 in Appendix A. In the fall of 2011, twelve (12) new monitoring wells were drilled in the vicinity of the recently constructed solids drying cells. Beginning November 2011, those wells were sampled and will continue to be sampled monthly along with the other sampling locations mentioned. Figure 9 in Appendix A illustrates the locations of these wells, and they are described in Table 1.

The Dolores River was sampled above the St. Louis pond system, and below the adit outfalls downstream of the reclaimed Silver Swan Mine area. The river was also sampled at the USGS gaging station downstream of the Silver Swan site.

TABLE 1 - Sample Location Summary

SITE ID	SITE DESCRIPTION
DR-4-SW	Dolores River below Silver Swan
DR-1	Dolores River above St. Louis settling pond system
DR-2	Dolores River immediately above the St. Louis settling pond system outfall

DR-3	St. Louis tunnel discharge at adit
DR-4	Discharge of Pond 15
DR-5	Discharge of Pond 8
DR-6	St. Louis settling pond system outfall to the Dolores River
DR-7	Dolores River below St. Louis settling pond system outfall
DR-G	Dolores River at USGS gaging station #09165000
MW-1 Shallow MW-1 Deep	Both wells are located about 4 feet apart on the western embankment of Pond 13 at the division between Pond 11 and Pond 12.
MW-2 Shallow MW-2 Deep	Both wells are located about 4 feet apart on the western flood embankment of Pond 12, about mid-way along the pond.
MW-3 Shallow MW-3 Deep	Both wells are located about 4 feet apart on the western flood embankment of Pond 15, on the southern half of the embankment.
MW-4 Shallow MW-4 Deep	Both wells are located about 4 feet apart on the southern embankment of Pond 13, approximately 60 west of the main east access road.
MW-5 Shallow MW-5 Deep	Both wells are located about 4 feet apart on the western dike of drying cell 3 (refer to Figure 9).
MW-6 Shallow MW-6 Deep	Both wells are located about 4 feet apart on northern embankment of Pond 13, approximately 75 feet west of the main east access road

2.3 Sampling Station Descriptions

The sampling requirements and stations are described in detail below:

DR-4-SW. Dolores River below Silver Swan. Sampling/flow measurement location is on the Dolores River below the Silver Swan site just downstream of a bend in the river and below a cemetery on the east bank. Flow measurements were collected by flowmeter.

DR-1. Dolores River above St. Louis settling ponds system. The sampling/flow measurement location is on the Dolores River approximately 50 feet upstream of the Rico Ranger Station. Flow measurements were collected by flowmeter.

DR-2. Dolores River immediately above the St. Louis settling pond system outfall. Sampling/flow measurement location is on the Dolores just above the 002 discharge outfall, and upstream of the hot tub discharge. The site is located directly adjacent to the thermal discharge which supplies the hot tub. Flow measurement was collected by flowmeter.

DR-3. St. Louis tunnel discharge at adit entrance. Sampling location is at the inlet of the flume, just before the throat. Flow measurement by an installed 9" flume at the sampling location.

DR-4. Discharge of Pond 15. Flow measurement was collected by flowmeter.

DR-5. Discharge of Pond 8. Flow measurement was collected by flowmeter.

DR-6. St. Louis settling ponds system outfall to the Dolores River (Outfall 002). Flow measurement by installed 9" flume.

DR-7. Dolores River below St. Louis settling ponds system outfall. Sampling/flow measurement location is located just off the entrance road to the St. Louis ponds site where the Dolores River is adjacent to the entrance road. The site is located approximately 75 feet downstream from a large bend in the river that first brings the Dolores adjacent to the entrance road. Flow measurements were collected by flowmeter.

DR-G. Located at the USGS gauging station #09165000. Flow measurements were collected by flowmeter.

Monitoring Wells. All monitoring wells were sampled by use of a bailer, and field measurements were taken at the time of sampling. Depth measurements were also taken at this time. For November 2011, MW-2 Shallow and MW-3 Shallow were dry.

3.0 Sampling and Analysis Parameters and Methods

All samples were collected as grab samples. Samples were collected from well-mixed locations, which are representative of conditions within the flow stream. Lab-certified plastic bottles were used to collect sample water for analyses. Clean hands, dirty hands procedures were followed throughout the sampling. For quality control purposes, one duplicate sample and one field blank were included with the water samples being submitted to the laboratory for analysis.

Lab-certified plastic bottles were used to collect all water samples. Sample water was first collected in clean plastic jugs, and within 10 minutes, placed in the sampling bottles. A 500 mL HDPE bottle was used to collect a sample for alkalinity, TDS, TSS, and sulfate analyses. A 250 mL HDPE bottle was used to collect a sample for salinity analysis. Sample water for dissolved metals analysis and potentially dissolved metals analysis was filtered through a 0.45µm filter into a 250 mL sample bottle containing nitric acid preservative. Sample water for total recoverable metals analysis and water hardness was collected without filtration in a 250 mL HDPE sample bottle containing nitric acid preservative. Sample water for cyanide analysis was collected without filtration into a 250 mL HDPE sample bottle containing sodium hydroxide preservative.

Field parameters were measured at the time of sample collection. Field measurement data for pH, temperature, conductivity, and dissolved oxygen were recorded using an EXTECH Instruments DO610 ExStik II DO/pH/Conductivity kit, and results were logged in the field log book. The field instrument was calibrated prior to use with equipment calibration and maintenance standard solutions and consistent with manufacturer's instructions. Weather parameters including temperature and precipitation were obtained and documented.

All sample bottles were labeled to identify sample number, date and time of collection, type of analysis, and appropriate preservative. In addition, sample analysis/chain of custody forms were completed and processed at the time of

sample collection. Original chain of custody forms are signed, dated, and placed in the sample container prior to sealing the container for shipment.

Water samples were kept in cooled containers and sent to the analytical laboratory. Samples were submitted to Pace Analytical Laboratories in Lenexa, Kansas for analysis by analytical procedures listed on Table 2. Analysis was performed according to methods specified in 40 CFR, Part 136 or other methods approved by the EPA. Laboratory methods and reporting limits for all parameters are presented in Table 2. Laboratory results and supporting documentation including quality assurance results are contained in the Appendix C and Appendix D of this report.

TABLE 2 - Analytical Procedures Summary

Parameter	Detection Limit (MDL)	Method
Field Parameters		
pH (s.u.)	+/- 0.01 pH	EPA 150.2
Temperature (°C)	+/- 1°C	Standard Method 2550
Conductivity ($\mu\text{mhos}/\text{cm}$)	+/- 2% Full Scale	EPA 120.1
Dissolved Oxygen	+/- 2% Full Scale	SM 4500-OG
Non-Metals		
Alkalinity (mg/L as CaCO_3)	RL – 20 mg/L	EPA 310.1
Hardness (mg/L as CaCO_3)	RL – 0.5 mg/L	SM 2340 B
Total Dissolved Solids (mg/L as TDS)	RL – 5.0 mg/L	SM 2540C
Total Suspended Solids (mg/L as TSS)	RL – 5.0 mg/L	SM 2540D
Cyanide ($\mu\text{g}/\text{L}$ as CN)	RL – 0.005 mg/L	EPA 335.4
Salinity	RL – 6 mg/L	SM 2510B (calculated)
Sulfate (mg/L as SO_4)	RL – 1 mg/L	EPA 300.0
Total and Dissolved Metals		
Aluminum ($\mu\text{g}/\text{L}$ as Al)	2 $\mu\text{g}/\text{L}$	EPA 200.8
Antimony ($\mu\text{g}/\text{L}$ as Sb)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Arsenic ($\mu\text{g}/\text{L}$ as As)	0.09 $\mu\text{g}/\text{L}$	EPA 200.8
Barium ($\mu\text{g}/\text{L}$ as Ba)	0.08 $\mu\text{g}/\text{L}$	EPA 200.8
Beryllium ($\mu\text{g}/\text{L}$ as Be)	0.02 $\mu\text{g}/\text{L}$	EPA 200.8
Cadmium ($\mu\text{g}/\text{L}$ as Cd)	0.03 $\mu\text{g}/\text{L}$	EPA 200.8
Calcium ($\mu\text{g}/\text{L}$ as Ca)	10 $\mu\text{g}/\text{L}$	EPA 200.8
Chromium (ug/l as Cr)	0.25 ug/L	EPA 200.8
Copper ($\mu\text{g}/\text{L}$ as Cu)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Iron ($\mu\text{g}/\text{L}$ as Fe)	4.67 $\mu\text{g}/\text{L}$	EPA 200.8
Lead ($\mu\text{g}/\text{L}$ as Pb)	0.05 $\mu\text{g}/\text{L}$	EPA 200.8
Magnesium ($\mu\text{g}/\text{L}$ as Mg)	2.5 $\mu\text{g}/\text{L}$	EPA 200.8
Manganese ($\mu\text{g}/\text{L}$ as Mn)	0.17 $\mu\text{g}/\text{L}$	EPA 200.8
Mercury ($\mu\text{g}/\text{L}$ as Hg)	0.049 $\mu\text{g}/\text{L}$	EPA 245.1
Nickel ($\mu\text{g}/\text{L}$ as Ni)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Potassium ($\mu\text{g}/\text{L}$ as K)	10 $\mu\text{g}/\text{L}$	EPA 200.8
Selenium (ug/l as Se)	0.22 ug/L	EPA 200.8
Silver (ug/L as Ag)	0.25 ug/L	EPA 200.8
Sodium ($\mu\text{g}/\text{L}$ as Na)	25 $\mu\text{g}/\text{L}$	EPA 200.8
Thallium ($\mu\text{g}/\text{L}$ as Tl)	0.05 ug/L	EPA 200.8
Vanadium ($\mu\text{g}/\text{L}$ as V)	0.05 ug/L	EPA 200.8
Zinc ($\mu\text{g}/\text{L}$ as Zn)	2.5 $\mu\text{g}/\text{L}$	EPA 200.8

4.0 Flow Measurement Methods

Flows were measured at the river sampling locations where accessible. The flow measurements obtained this sampling period are described in Section 2.3. Flow velocity was measured for sampling locations DR-1, DR-2, DR-3, DR-4, DR-5, DR-6, DR-7, DR-4-SW, and DR-G. Cross-sectional areas could be safely obtained at all river sample locations (DR-1, DR-2, DR-7, DR-4-SW, AND DR-G) and at the discharge spillway of pond 8 (DR-5). Refer to Figures 3 through 8 in Appendix E for these cross sections. The flowrates are presented on Table 3 in Appendix B.

During a review of survey datum for the river cross-sections, it was found that station DR-G had an incorrect bench mark elevation. The correct elevation has been included into the cross-sectional data. Station DR-G flow data collected to date is correct as all measurements are consistent to the cross-section surfaces and water levels. The surveys are essentially accurate relative to themselves, and an elevation shift of the benchmark and the cross-section points is all that is required. All previous water level elevations shown on the November cross-section have been updated to reflect this change.

Flowrates collected during this sampling event were taken by use of a Global Water Flow Probe FP211 portable flow meter using the six-tenths-depth method. This method uses the velocity at six-tenths of the depth as the mean velocity. This method is generally reliable between depths from 0.3 feet to 2.5 feet. Stream sections were selected with the desired characteristics of parallel flows, smooth streambed with minimal obstructions, a straight channel, and a flat streambed. The stream section, perpendicular to the flow was measured in feet. The width of the section was determined and divided into several vertical sections. Flow measurements of velocity (by the six-tenths-depth method) and water depth were measured at each vertical section using the Global Water Flow Probe FP211. The flow meter was set to the 3 second fixed period average mode. A minimum of three velocity readings were recorded at each vertical section. Flows were calculated for each stream section using the water depth, horizontal distance, and averaged velocity data.

The St. Louis tunnel flow (DR-3) and St. Louis pond discharge (DR-6) currently have Parshall flumes installed. Flow measurements can be determined at these flumes when the depth of flow is known at a particular point. In order to continuously monitor and measure the depth of flow, depth measurement devices were installed on May 11th, 2011 and May 12th, 2011 at both the north and south flumes. An STI Ultrasonic IRU-5180 automated water level detector was installed at the north Parshall flume. It is suspended over the flow stream and measures the distance from the sensor to the water surface using ultrasonic sound waves. It then uses that value to determine the depth of flow, and reports it. The south flume has a submersible pressure transducer called the OTT Orpheus Mini. It records deviations from a pre-programmed depth of air space from the top edge of the flume down to the water level. Knowing then the total depth of the flume, the depth of flow can be determined. The post processed data for these two devices for the month of November, 2011 is given in Appendix I and Appendix J. NOTE: Results for the North Flume are given only until the 16th of November at about noon. Data was not recorded to the external memory

card on the data logger for unknown reasons. It is unknown at this time if data was lost. A close inspection of the equipment will be done as soon as possible to correct the problem.

It has been observed that the flow at the north Parshall flume (DR-3) have recorded readings with some variability. Actions have been taken to reduce turbulent flow entering the flume by laying the liner as flat as possible. Additionally, the manufacturer has provided guidance for data error correction that has been implemented. In order to obtain accurate data a transducer water flow measurement device has been ordered and is to be installed to confirm the ultrasonic readings.

5.0 Analytical Results

The results of the laboratory analysis are summarized on Table 4 and Table 4a in Appendix B. The data is organized by sample location. The reports for the laboratory results are contained in Appendix C. NOTE: An error was made in the reporting of the results for the monitoring wells. In the field, MW-2 Shallow and MW-3 Shallow were dry and thus samples were not collected. On the chain of custody, MW-2 Shallow was crossed off. MW-3 Shallow was also meant to be crossed off, but MW-2 Deep was crossed off by mistake. As a result, the lab labeled the results for MW-2 Deep as MW-3 Shallow in the laboratory report found in Appendix C. The correction was accounted for in the results found in Table 4a in Appendix B.

6.0 Quality Control

In addition to the standard laboratory Quality Control (QC), field QC samples for this sampling event included a field duplicate and a Field Blank (FB).

6.1 Field QC

A field duplicate water sample was collected from sample location DR-3. During sample collection, the duplicate sample bottles were filled simultaneously from the discharge stream of water. The duplicate sample was submitted to the analytical laboratory with the label of DR-8, so as to serve as a “blind duplicate.”

Table 5 compares the analytical results from DR-3 and DR-8 and presents the Relative Percent Difference (RPD). The RPD for aqueous samples should be +/- 20%. All comparative values were within +/-20%.

TABLE 5 – Relative Percent Difference (RPD) of Total Metals Portion Between DR-3 and Duplicate Sample DR-8

Analyte (Total)	DR-3 ($\mu\text{g/L}$)	DR-8 ($\mu\text{g/L}$) Duplicate of DR-3	RPD (%)
Aluminum	163	165	1.22
Antimony	<0.50	<0.50	0.00
Arsenic	<0.50	<0.50	0.00
Barium	18.8	19.4	3.14
Beryllium	0.37	0.45	19.51

Cadmium	17.6	17.5	-0.57
Calcium	232000	218000	-6.22
Chromium	<0.50	<0.50	0.00
Copper	29.9	30	0.33
Iron	3580.0	3580.0	0.00
Lead	1.3	1.1	-16.67
Magnesium	19600	20000	2.02
Manganese	2470	2380	-3.71
Mercury	<0.20	<0.20	0.00
Nickel	6.1	6.2	1.63
Potassium	1550	1590	2.55
Selenium	<0.50	<0.50	0.00
Silver	<0.50	<0.50	0.00
Sodium	10000	9970	-0.30
Thallium	<0.10	<0.10	0.00
Vanadium	<0.10	<0.10	0.00
Zinc	3680	3540	-3.88
Alkalinity (mg/L)	98.0	98.0	0.00
Hardness	661000	626000	-5.44
TDS (mg/L)	914	918	0.44
TSS (mg/L)	6.0	<5.0	0.00
Cyanide	0.0050	0.0053	0.00
Salinity (mg/L)	696	723	3.81
Sulfate (mg/L)	573	580	1.21

A Field Blank (FB) was collected by pouring distilled water through the filtering manifold after the first day of sampling and decontaminating the equipment. The FB was analyzed for the same constituents as the other samples. The FB had below detectable concentrations for all metals except total calcium and dissolved barium. The pH was near neutral, the Electrical Conductivity (EC) was non-detectable, and it showed a low level of alkalinity.

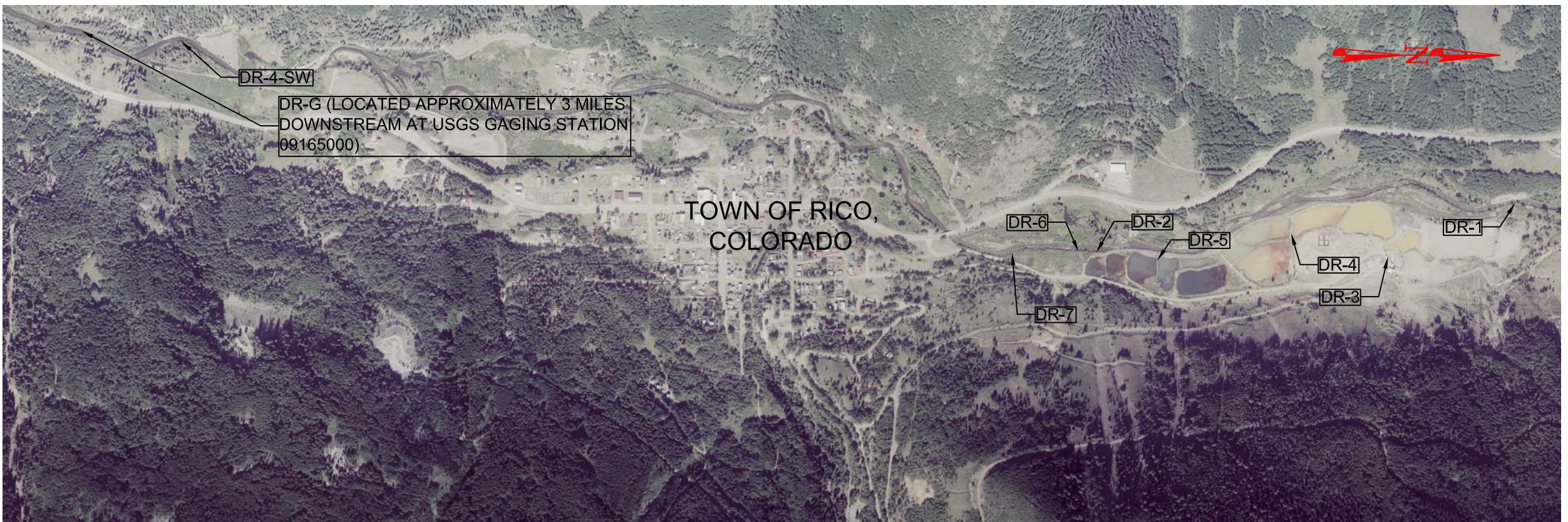
6.2 Laboratory QC

The laboratory control sample (LCS), method blank, matrix spike, and matrix spike duplicate sample results were all within the established limits of concentration, percent recovery, and relative percent difference, with several minor exceptions under the following:

- The estimated concentrations were above the adjusted method detection limit and below the adjusted reporting limit for the Matrix Spike / Matrix Spike Duplicate for aluminum (dissolved), antimony (dissolved), iron (dissolved), and zinc (dissolved).
- The Matrix Spike and Matrix Spike Duplicate recovery were not evaluated against control limits due to sample dilution for calcium, calcium (dissolved), magnesium (dissolved), manganese (dissolved), and sodium (dissolved).
- The analyte concentration exceeded the calibration range for the Matrix Spike / Matrix Spike Duplicate for manganese. The result is estimated.
- The continuing calibration for lead and lead (dissolved) is outside of Pace Analytical acceptance limits. The results may be biased high.
- Matrix spike recovery exceeded QC limits for calcium (dissolved)and mercury.

QC results are summarized in Tables 6 through 9 In Appendix B with the full laboratory QC results presented in Appendix D.

Appendix A
Sampling Location Maps



General Notes

Scale in Feet
0 500 1000

No.	Revision/Issue	Date

ATLANTIC RICHFIELD COMPANY



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RICO SURFACE WATER SAMPLING

SURFACE WATER SAMPLING LOCATIONS

RICO, CO

Project	Figure
Date 09-FEB-2011	
Scale 1" = 1000'	1



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General Notes

Scale in Feet
0 175 350

No.	Revision/Issue	Date

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

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ENGINEER: CS, MAD

APPROVED:

RICO SURFACE
WATER SAMPLING

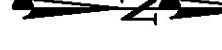
ST. LOUIS POND AREA
SAMPLING LOCATIONS

RICO, CO

Project	Figure
Date	09-FEB-2011
Scale	1" = 350'

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Date											
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Appendix B

Data Tables

TABLE 3 - Sampling Field Data and Station Information Summary

	Field Measurements				GPS Location (Colorado State Plane NAD83)						
Sample Location	pH	Temp (°C)	EC (mS/cm)	Dissolved Oxygen (ppm)	Northing	Easting	Date	By	Stream Cross section area (ft^2)	Flowrate (cfs)	Comments
DR-1	7.87	0.9	0.283	2.65	1389970.4600	2267573.6490	11/9/2011	M. DeFriez, D. Smith	25.5	29.0	Cross section on the Dolores River above St. Louis settling pond system (approximately 800 ft north of the northern edge of Pond 18). Flow Measurement by flow meter.
DR-2	8.01	0.5	0.520	2.80	1386660.9610	2267971.4630	11/9/2011	M. DeFriez, D. Smith	32.8	26.5	Cross section on the Dolores River, approximately 150 ft north of system outfall. Flow measurement by flow meter.
DR-3	7.20	16.8	1.156	1.13	1388963.0808	2268004.6974	11/10/2011	M. DeFriez, D. Smith	NA	1.57	St Louis adit discharge. Flow measurement by installed Parshall Flume.
DR-4	6.78	8.9	1.107	1.73	1388153.6284	2267799.1579	11/10/2011	M. DeFriez, D. Smith	NA	1.50	Pond 15 discharge. Flow measurement by flow meter.
DR-5	7.09	0.5	1.175	2.8	1387273.4503	2268024.8524	11/9/2011	M. DeFriez, D. Smith	NA	1.41	Pond 8 was discharging at multiple small locations as well as the spillway. Flow velocity measurements were collected at the spillway. Due to the shallow water and multiple paths, accurate flow measurements could not be determined for this sampling location and period. Leakage was estimated by water balance. Flow measurements were take at spillway by flow meter.
DR-6	7.49	1.3	1.190	2.65	1386431.4984	2267964.5711	11/10/2011	M. DeFriez, D. Smith	NA	1.33	Outfall to Dolores River. Flow measurement by installed Parshall Flume.
DR-7	7.10	2	0.610	2.54	1385880.1050	2267983.4510	11/9/2011	M. DeFriez, D. Smith	32.0	31.6	Cross section on the Dolores River, approximately 500 ft below St. Louis settling pond system outfall. Flow measurement by flow meter.
DR-8	7.20	16.8	1.156	1.13	1388963.0808	2268004.6974	11/10/2011	M. DeFriez, D. Smith	NA	1.57	DR-8 is a duplicate sample of DR-3 (or a location of sampler's choosing). See comments for DR-3.
DR-4-SW	7.84	1.4	0.445	2.62	1379176.1190	2266285.0850	11/9/2011	M. DeFriez, D. Smith	16.8	16.4	Cross section on the Dolores River approximately 100 below the Silver Swan site. Flow measurement by flow meter.
DR-G	7.80	0.3	0.563	2.78	1364029.7850	2258752.9060	11/9/2011	M. DeFriez, D. Smith	10.9	8.49	Cross section on the Dolores River at USGS gauging station #09165000, approximately 3.5 miles downstream of the Silver Swan site
FB	8.38	3.1	0.0	2.31	N/A	N/A	11/10/2011	M. DeFriez, D. Smith	NA	NA	Field blank
MW-1 SHALLOW	7.38	17.2	1.013	4.3	1387826.7470	2267944.5160	11/11/2011	M. DeFriez, D. Smith	NA	NA	Both wells are located about 4 feet apart on the western embankment of Pond 13 at the division between Pond 11 and Pond 12.
MW-1 DEEP	7.25	13.2	0.932	4.13	1387829.4070	2267940.5680	11/11/2011	M. DeFriez, D. Smith	NA	NA	
MW-2 SHALLOW					1387829.7580	2267759.0810	11/11/2011	M. DeFriez, D. Smith	NA	NA	Both wells are located about 4 feet apart on the western flood embankment of Pond 12, about mid-way along the pond.
MW-2 DEEP	7.36	14.1	1.085	3.64	1387836.0950	2267756.0910	11/11/2011	M. DeFriez, D. Smith	NA	NA	MW-2 SHALLOW was dry
MW-3 SHALLOW					1388308.0910	2267603.5420	11/11/2011	M. DeFriez, D. Smith	NA	NA	Both wells are located about 4 feet apart on the western flood embankment of Pond 15, on the southern half of the embankment. MW-3 SHALLOW was dry.
MW-3 DEEP	7.1	13.6	1.126	1.25	1388313.2060	2267601.6050	11/11/2011	M. DeFriez, D. Smith	NA	NA	
MW-4 SHALLOW	7.69	11.8	1.325	6.44	1387836.9670	2268221.9370	11/11/2011	M. DeFriez, D. Smith	NA	NA	Both wells are located about 4 feet apart on the southern embankment of Pond 13, approximately 60 west of the main east access road.
MW-4 DEEP	6.34	10.3	1.197	5.62	1387839.1320	2268224.8950	11/11/2011	M. DeFriez, D. Smith	NA	NA	
MW-5 SHALLOW	5.94	12.2	2.06	4.78	1388369.7050	2267814.3980	11/11/2011	M. DeFriez, D. Smith	NA	NA	Both wells are located about 4 feet apart on the western dike of drying cell 3 (refer to Figure 9).
MW-5 DEEP	6.71	10.3	1.121	4.7	1388374.5740	2267813.8150	11/11/2011	M. DeFriez, D. Smith	NA	NA	
MW-6 SHALLOW	6.44	11.3	1.971	5.43	1388166.1000	2268148.1000	11/11/2011	M. DeFriez, D. Smith	NA	NA	Both wells are located about 4 feet apart on northern embankment of Pond 13, approximately 75 feet west of the main east access road
MW-6 DEEP	7.1	10.9	750	4.77	1388165.5290	2268153.3270	11/11/2011	M. DeFriez, D. Smith	NA	NA	

TABLE 4 - Analytical Sampling Results Summary November 2011

Metals (ug/L)																					Non-Metals (mg/L, unless otherwise indicated)										Field Parameters					
DR-1: Delores River above St. Louis settling pond system		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-1	11/9/11	Total	39.9	<0.50	<0.50	<0.50	69.0	<0.20	<0.080	47500	<0.50	<0.50	64.0	<0.10	6860	27.3	<0.20	<0.50	631	<0.50	<0.50	2800	<0.10	0.19	<5.0	102	147000	174	<5.0	<0.0050	186	48.6	7.87	0.9	0.283	2.65
DR-1 D	11/9/11	Dissolved	12.8	<0.50	<0.50	<0.50	67.1	<0.20	<0.080	38800	<0.50	1.9	<50.0	<0.10	6620	25.0	<0.20	2.1	654	<0.50	<0.50	2780	<0.10	0.10	6.0											
DR-2: Delores River immediately above the St. Louis settling pond system outfall		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-2	11/9/11	Total	27.2	<0.50	<0.50	<0.50	71.0	<0.20	<0.080	63500	<0.50	<0.50	81.2	0.46	8590	256	<0.20	<0.50	915	<0.50	<0.50	3490	<0.10	0.13	7.6	108	194000	230	<5.0	0.0052	233	83.9	8.01	0.5	0.520	2.80
DR-2 D	11/9/11	Dissolved	6.3	<0.50	<0.50	<0.50	68.0	<0.20	<0.080	54000	<0.50	1.9	<50.0	<0.10	8070	257	<0.20	2.1	854	<0.50	<0.50	3230	<0.10	<0.10	9.9											
DR-3: St. Louis tunnel discharge at adit		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-3	11/10/11	Total	163	<0.50	<0.50	<0.50	18.8	0.37	17.6	232000	<0.50	29.9	3580	1.3	19600	2470	<0.20	6.1	1550	<0.50	<0.50	10000	<0.10	<0.10	3680	98.0	661000	914	6.0	<0.005	696	573	7.20	16.8	1.156	1.13
DR-3 D	11/10/11	Dissolved	36.7	<0.50	<0.50	<0.50	17.8	0.34	16.6	212000	<0.50	5.8	1070	<0.10	19100	2310	<0.20	6.2	1500	<0.50	<0.50	9520	<0.10	<0.10	3340											
DR-4: Discharge of Pond 15		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-4	11/10/11	Total	121	<0.50	<0.50	<0.50	19.0	0.32	16.4	221000	<0.50	19.2	2680	1.0	19600	2340	<0.20	6.1	1570	<0.50	<0.50	10200	<0.10	<0.10	3340	96.0	633000	947	<5.0	<0.0050	726	590	6.78	8.9	1.107	1.73
DR-4 D	11/10/11	Dissolved	8.4	<0.50	<0.50	<0.50	18.0	<0.20	14.2	214000	0.53	1.0	<50.0	<0.10	19500	2250	<0.20	6.0	1550	<0.50	<0.50	9720	<0.10	<0.10	2840											
DR-5: Discharge of Pond 8		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-5	11/9/11	Total	72.6	<0.50	<0.50	<0.50	19.1	0.23	14.7	228000	0.51	10.8	1540	0.51	20900	2190	<0.20	5.8	1740	<0.50	<0.50	10500	<0.10	<0.10	2980	104	655000	939	<5.0	<0.0050	754	583	7.09	0.5	1.175	2.8
DR-5 D	11/9/11	Dissolved	5.3	<0.50	<0.50	<0.50	18.2	<0.20	12.8	222000	<0.50	<50.0	0.89	<0.10	20300	2130	<0.20	5.8	1670	<0.50	<0.50	10100	<0.10	<0.10	2590											
DR-6: St. Louis settling pond system outfall to the Delores River (Outfall 002)		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-6	11/10/11	Total	50.6	<0.50	<0.50	<0.50	19.6	<0.20	13.7	234000	<0.50	6.2	1130	0.30	22900	2050	<0.20	5.5	2240	<0.50	<0.50	12400	<0.10	<0.10	2920	128	678000	995	<5.0	<0.0050	783	612	7.49	1.3	1.190	2.65
DR-6 D	11/10/11	Dissolved	6.5	<0.50	<0.50	<0.50	18.3	<0.20	12.1	221000	<0.50	0.93	63.6	<0.10	21600	2020	<0.20	5.3	2020	<0.50	<0.50	11200	<0.10	<0.10	2660											
DR-7: Delores River below St. Louis settling pond system outfall		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-7	11/9/11	Total	22.6	<0.50	1.1	0.1	63.6	<0.20	1.8	102000	<0.50	1.0	328	0.14	14000	507	<0.20	1.2	2130	<0.50	<0.50	7430	<0.10	0.10	389	150	311000	396	<5.0	<0.0050	381	185	7.10	2.0	0.610	2.54
DR-7 D	11/9/11	Dissolved	6.9	<0.50	1.0	0.1	61.3	<0.20	1.7	90600	<0.50	2.0	205	0.13	13700	483	<0.20	2.4	2130	<0.50	<0.50	7460	<0.10	<0.10	368											
DR-8: St. Louis tunnel discharge at adit (Duplicate of DR-3)		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium</th																					

TABLE 4a - Monitoring Well Analytical Sampling Results Summary November 2011

Metals (ug/L)																									Non-Metals (mg/L, unless otherwise indicated)										Field Parameters						
MW-1 SHALLOW																										DEPTH: 6.24															
Field Sample ID	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)						
MW-1 SHALLOW	11/9/11	Total	1030	<0.50	0.91	45.4	<0.20	0.12	236000	1.3	3.7	1230	7.7	20600	106	<0.20	0.88	1830	13.6	<0.50	9300	<0.10	1.4	17.8	92.0	675000	848	52.0	0.0052	662	568	7.38	17.2	1.013	4.30						
MW-1 SHALLOW Dissolved	11/9/11	Dissolved	35.0	<0.50	<0.50	31.9	<0.20	0.12	252000	<0.50	2.2	<50.0	0.46	21000	34.0	<0.20	1.9	1630	14.7	<0.50	9480	<0.10	<0.10	13.1	245																
MW-1 DEEP																										DEPTH: 8.47'															
Field Sample ID	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)						
MW-1 DEEP	11/9/11	Total	45.5	<0.50	1.2	31.9	<0.20	0.54	202000	<0.50	2.4	113	2.4	17800	163	<0.20	1.1	1650	2.8	<0.50	10600	<0.10	0.20	245	102	577000	723	<5.0	<0.0050	612	491	7.25	13.2	0.932	4.13						
MW-1 DEEP Dissolved	11/9/11	Dissolved	6.7	<0.50	1.0	31.2	<0.20	0.51	209000	<0.50	2.8	<50.0	0.31	17900	161	<0.20	2.7	1610	2.9	<0.50	10600	<0.10	0.10	253																	
MW-2 SHALLOW																										DEPTH: NA															
Field Sample ID	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)						
MW-2 SHALLOW	11/10/11	Total																																							
MW-2 SHALLOW Dissolved	11/10/11	Dissolved																																							
MW-2 DEEP																										DEPTH: 10.09'															
Field Sample ID	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)						
MW-2 DEEP	11/10/11	Total	311	<0.50	<0.50	18.5	<0.20	1.4	240000	0.85	1.9	501	3.2	21100	32.1	<0.20	<0.50	2090	1.3	<0.50	10800	<0.10	0.42	27.4	94.0	685000	857	13.0	<0.0050	696	601	7.36	14.1	1.085	3.64						
MW-2 DEEP Dissolved	11/10/11	Dissolved	80.4	<0.50	<0.50	16.1	<0.20	1.5	258000	0.54	2.6	146	1.1	22000	25.5	<0.20	2.4	2110	1.4	<0.50	11100	<0.10	0.12	27.8																	
MW-3 SHALLOW																										DEPTH: NA															
Field Sample ID	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)						
MW-3 SHALLOW	11/9/11	Total																																							
MW-3 SHALLOW Dissolved	11/9/11	Dissolved																																							
MW-3 DEEP																										DEPTH: 10.42'															
Field Sample ID	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)						
MW-3 DEEP	11/10/11	Total	300	<0.50	1.6	23.7	<0.20	0.13	233000	1.1	2.1	7450	4.8	24300	1620	<0.20	0.55	2330	<0.50	<0.50	11500	<0.1																			

Rico Colorado Surface Water Sampling QC Results - September 2011 Sampling

TABLE 6 - Method Blank

Description	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness	TDS	TSS	Cyanide	Sulfate
QC Sample	MB-1101967	MB-1105615	MB-1101967	MB-915574	MB-1101967	MB-912107	MB-913166	MB-913855	MB-914916																			
Units	µg/L	-	mg/L	mg/L	mg/L	mg/L	mg/L																					
Date	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/30/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	12/2/2011	11/21/2011	12/2/2011	11/16/2011	11/17/2011	11/21/2011	11/20/2011
Time	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:28	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:20	2:20	16:00	2:20	11:22	14:46	14:45	1:00	
Result	ND																											
RL	4.0	0.50	0.50	0.30	0.20	0.080	20.0	0.50	0.50	50.0	0.10	5.0	0.50	0.20	0.50	20.0	0.50	0.50	50.0	0.10	0.10	5.0	20.0	71.0	5.0	5.0	0.0050	1.0
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dissolved																												
QC Sample	MB-1101934	MB-1105639	MB-1101934	SD-912108	SD-913167	-																						
Units	µg/L	mg/L	mg/L	-																								
Date	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/30/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	12/1/2011	-
Time	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	23:38	-
Result	ND	-																										
RL	4.0	0.50	0.50	0.30	0.20	0.080	20.0	0.50	0.50	50.0	0.10	5.0	0.50	0.20	0.50	20.0	0.50	0.50	50.0	0.10	0.10	5.0	-	-	-	-	-	
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample Duplicate																												
QC Sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SD-912108	SD-913167	-	
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L	mg/L	-	
Original Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	ND	-	
Dup Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1030	ND	-	
RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	
Max RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	25	-	
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample Duplicate																												
QC Sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SD-912472	SD-913168	-	
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L	mg/L	-	
Original Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	914	166.0	-	
Dup Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	923	168.0	-	
RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	
Max RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	25	-	
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

DEFINITIONS
DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate.
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up.
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
LABORATORIES
PASI-K Pace Analytical Services - Kansas City
PASI-M Pace Analytical Services - Minneapolis
ANALYTE QUALIFIERS
CH The Method Blank for the continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
E Analyte concentration exceeded the calibration range. The reported result is estimated.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6 Matrix spike and Matrix duplicate recovery not evaluated against control limits due to sample dilution.



Rico Colorado Surface Water Sampling QC Results - September 2011 Sampling

TABLE 7 - Laboratory Control Sample

Description	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness	TDS	TSS	Cyanide	Sulfate
QC Sample	LCS-1101968	LCS-1105616	LCS-1101968	LCS-915575	LCS-1101968	LCS-913856	LCS-914917																					
Units	µg/L	-	-	-	mg/L	mg/L																						
Spike Conc.	80	80	80	80	80	80	1000	80	80	1000	80	5	80	1000	80	80	1000	80	80	1000	80	80	500	-	-	0.1	5	
LCS Result	73.0	77.5	77.7	74.5	76.9	75.7	902	74.9	72.8	944	82.3	971	77.2	4.6	73.3	935	77.8	76.0	990	77.2	76.2	78.3	494	6250	0.100	5.2		
LCS % Rec	91	97	97	93	96	95	90	94	91	94	103	97	97	93	92	94	97	95	99	96	95	98	99	-	-	102	105	
% Rec Limits	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	90-110	-	-	69-126	90-110	
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dissolved																												
QC Sample	LCS-1101935	LCS-1105640	LCS-1101935	-	-	-	-																					
Units	µg/L	-	-	-	-																							
Spike Conc.	80	80	80	80	80	80	1000	80	0.08	1000	80	1000	80	5	80	1000	80	80	1000	80	80	1000	80	-	-	-	-	
LCS Result	73.2	77.2	78.1	75.5	85.5	77	950	75	74.8	949	81.6	978	76.4	5.4	76.7	937	79.3	76.6	997	77.6	77.1	77.5	-	-	-	-		
LCS % Rec	91	96	98	94	107	96	95	94	93	95	102	98	95	108	96	94	99	96	100	97	96	97	-	-	-	-		
% Rec Limits	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	85-115	-	-	-	-		
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sample Duplicate																												
QC Sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Original Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dup Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Max RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sample Duplicate																												
QC Sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Original Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dup Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Max RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PAS-IK Pace Analytical Services - Kansas City

PAS-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CH the Method Blank for The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



Rico Colorado Surface Water Sampling QC Results - September 2011 Sampling

TABLE 9 - Matrix Spike Sample

Description	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness	TDS	TSS	Cyanide	Sulfate
QC Sample	MSS-1101971	MSS-1105619	MSS-1101971	MSS-913857	MSS-914918																							
Units	µg/L	-	-	-	-	mg/L	mg/L																					
Original Result	ND	0.0056	48.6																									
Spike Conc.	80	80	80	80	80	80	1000	80	1000	80	1000	80	5	80	1000	80	80	1000	80	80	-	-	-	-	0.1	25		
MSS Result	76.7	74.4	75.6	72.7	83.2	73.3	869	74.3	71.7	935	77.2	977	75.8	7.6	73.6	913	78.0	73.0	978	74.3	74.1	77.8	-	6190	-	0.1	69.5	
MSS % Rec	91	93	94	91	104	92	86	92	90	93	96	97	95	149	92	91	97	91	97	93	94	-	-	-	-	98	84	
% Rec Limits	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	-	41-136	61-119		
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M1	-	-	-	-	-	-	-	-	-	-	-		
Dissolved																												
QC Sample	MSS-1101938	MSS-1105706	MSS-1101938	-	-	-	-																					
Units	µg/L	-	-	-	-																							
Original Result	12.8	ND	ND	67.1	ND	ND	38800.0	ND	1.9	ND	6620.0	25.0	ND	2.10	654.0	ND	ND	2780.0	ND	0.1	6.0	-	-	-	-	-	-	
Spike Conc.	80	80	80	80	80	80	1000	80	80	1000	80	5	80	1000	80	80	1000	80	80	80	-	-	-	-	-	-		
MSS Result	89.8	81.2	81.9	147	81.9	79.8	46500	78.2	81.2	1020	77.1	7770	105	5.5	82.1	1660	84.2	79.1	3900	80.3	80.5	86.7	-	-	-	-	-	
MSS % Rec	96	101	102	100	102	100	770	97	99	100	96	114	100	109	100	101	105	99	112	100	100	101	-	-	-	-	-	
% Rec Limits	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	80-120	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	70-130	-	-	-	-	
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sample Duplicate																												
QC Sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SD-914858	-	
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L	-	
Original Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	
Dup Result	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0045J	-	
RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Max RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	
Qualifiers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

DEFINITIONS

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LABORATORIES

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PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

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M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



Appendix C

Project Narrative and Laboratory Analytical Reports

December 07, 2011

Mark DeFriez
Anderson Engineering Company I
977 W 2100 S.
Salt Lake City, UT 84119

RE: Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Dear Mark DeFriez:

Enclosed are the analytical results for sample(s) received by the laboratory on November 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colleen Clyne

colleen.clyne@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rico November 2011 Water Sampl
 Pace Project No.: 60110316

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
 A2LA Certification #: 2926.01
 Alaska Certification #: UST-078
 Alaska Certification #MN00064
 Arizona Certification #: AZ-0014
 Arkansas Certification #: 88-0680
 California Certification #: 01155CA
 EPA Region 8 Certification #: Pace
 Florida/NELAP Certification #: E87605
 Georgia Certification #: 959
 Idaho Certification #: MN00064
 Illinois Certification #: 200011
 Iowa Certification #: 368
 Kansas Certification #: E-10167
 Louisiana Certification #: 03086
 Louisiana Certification #: LA080009
 Maine Certification #: 2007029
 Maryland Certification #: 322
 Michigan DEQ Certification #: 9909
 Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
 Montana Certification #: MT CERT0092
 Nebraska Certification #: Pace
 Nevada Certification #: MN_00064
 New Jersey Certification #: MN-002
 New Mexico Certification #: Pace
 New York Certification #: 11647
 North Carolina Certification #: 530
 North Dakota Certification #: R-036
 North Dakota Certification #: R-036A
 Ohio VAP Certification #: CL101
 Oklahoma Certification #: D9921
 Oklahoma Certification #: 9507
 Oregon Certification #: MN200001
 Pennsylvania Certification #: 68-00563
 Puerto Rico Certification
 Tennessee Certification #: 02818
 Texas Certification #: T104704192
 Washington Certification #: C754
 Wisconsin Certification #: 999407970

Montana Certification IDs

602 South 25th Street, Billings, MT 59101
 EPA Region 8 Certification #: 8TMS-Q
 Idaho Certification #: MT00012

Montana Certification #: MT CERT0040
 NVLAP Certification #: 101292-0
 Minnesota Dept of Health Certification #: 030-999-442

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
 A2LA Certification #: 2456.01
 Arkansas Certification #: 05-008-0
 Illinois Certification #: 001191
 Iowa Certification #: 118
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
 Nevada Certification #: KS000212008A
 Oklahoma Certification #: 9205/9935
 Texas Certification #: T104704407-08-TX
 Utah Certification #: 9135995665

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Rico November 2011 Water Sampl
 Pace Project No.: 60110316

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60110316001	DR-1	Water	11/10/11 08:00	11/15/11 09:00
60110316002	DR-2	Water	11/10/11 08:00	11/15/11 09:00
60110316003	DR-3	Water	11/10/11 08:00	11/15/11 09:00
60110316004	DR-4	Water	11/10/11 08:00	11/15/11 09:00
60110316005	DR-5	Water	11/10/11 08:00	11/15/11 09:00
60110316006	DR-6	Water	11/10/11 08:00	11/15/11 09:00
60110316007	DR-7	Water	11/10/11 08:00	11/15/11 09:00
60110316008	DR-8	Water	11/10/11 08:00	11/15/11 09:00
60110316009	DR-4-SW	Water	11/10/11 08:00	11/15/11 09:00
60110316010	DR-G	Water	11/10/11 08:00	11/15/11 09:00
60110316011	FB	Water	11/10/11 08:00	11/15/11 09:00
60110316012	GW-1	Water	11/10/11 08:00	11/15/11 09:00
60110316013	GW-3	Water	11/10/11 08:00	11/15/11 09:00
60110316014	GW-4	Water	11/10/11 08:00	11/15/11 09:00
60110316015	GW-5	Water	11/10/11 08:00	11/15/11 09:00
60110316016	GW-7	Water	11/10/11 08:00	11/15/11 09:00
60110316017	EB-1	Water	11/10/11 08:00	11/15/11 09:00
60110316018	EB-2	Water	11/10/11 08:00	11/15/11 09:00

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SAMPLE ANALYTE COUNT

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110316001	DR-1	EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
60110316002	DR-2	SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
60110316003	DR-3	EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
60110316004	DR-4	SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110316005	DR-5	SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
60110316006	DR-6	SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
60110316007	DR-7	EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110316008	DR-8	SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
60110316009	DR-4-SW	EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
60110316010	DR-G	SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
60110316011	FB	EPA 200.8	RJS	22	PASI-M

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SAMPLE ANALYTE COUNT

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110316012	GW-1	EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
60110316013	GW-3	SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
60110316014	GW-4	SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	

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SAMPLE ANALYTE COUNT

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	Method	Analysts	Analytics Reported	Laboratory
60110316015	GW-5	Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
60110316016	GW-7	SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
60110316017	EB-1	EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110316018	EB-2	EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	RJS	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 200.8**

Description: 200.8 MET ICPMS

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: ICPM/29881

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- BLANK (Lab ID: 1101967)
- Lead
- DR-1 (Lab ID: 60110316001)
- Lead

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: ICPM/29876

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- BLANK (Lab ID: 1101934)
 - Lead, Dissolved
- DR-1 (Lab ID: 60110316001)
 - Lead, Dissolved
- DR-2 (Lab ID: 60110316002)
 - Beryllium, Dissolved
- DR-3 (Lab ID: 60110316003)
 - Lead, Dissolved
- DR-4 (Lab ID: 60110316004)
 - Lead, Dissolved
- DR-5 (Lab ID: 60110316005)
 - Lead, Dissolved
- DR-6 (Lab ID: 60110316006)
 - Beryllium, Dissolved
- DR-8 (Lab ID: 60110316008)
 - Lead, Dissolved
- DR-G (Lab ID: 60110316010)
 - Lead, Dissolved

QC Batch: ICPM/29877

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- GW-1 (Lab ID: 60110316012)
 - Lead, Dissolved

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/29905

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60110454003,60110464001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1102992)
 - Calcium, Dissolved
 - Magnesium, Dissolved
 - Sodium, Dissolved
 - Zinc, Dissolved
- MSD (Lab ID: 1102993)
 - Calcium, Dissolved
 - Magnesium, Dissolved
 - Sodium, Dissolved
 - Zinc, Dissolved

QC Batch: ICPM/29876

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10176005001,60110316001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1101938)
 - Calcium, Dissolved

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICPM/29876

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1101936)
 - Manganese, Dissolved
- MSD (Lab ID: 1101937)
 - Manganese, Dissolved

QC Batch: ICPM/29877

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1101942)
 - Calcium, Dissolved
 - Calcium, Dissolved

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

Analyte Comments:

QC Batch: ICPM/29877

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MSD (Lab ID: 1101943)
- Calcium, Dissolved

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 7470**

Description: 7470 Mercury

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERC/6239

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60110316001,60110316016

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1105617)
 - Mercury
- MS (Lab ID: 1105619)
 - Mercury
- MSD (Lab ID: 1105618)
 - Mercury

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 7470**

Description: 7470 Mercury, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **SM 2510B**

Description: 2510B Specific Conductance

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for SM 2510B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: Calculated

Description: Salinity

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for Calculated. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **SM 2320B**

Description: 2320B Alkalinity

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **SM 2540C**

Description: 2540C Total Dissolved Solids

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **SM 2540D**

Description: 2540D Total Suspended Solids

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **EPA 300.0**

Description: 300.0 IC Anions 28 Days

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Method: **SM 4500-CN-E**

Description: 4500CNE Cyanide, Total

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

18 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-1	Lab ID: 60110316001	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	39.9 ug/L		4.0	1	11/21/11 18:42	12/02/11 01:52	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7440-38-2	
Barium	69.0 ug/L		0.30	1	11/21/11 18:42	12/02/11 01:52	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 01:52	7440-41-7	
Cadmium	ND ug/L		0.080	1	11/21/11 18:42	12/02/11 01:52	7440-43-9	
Calcium	47500 ug/L		200	10	11/21/11 18:42	12/02/11 02:06	7440-70-2	M6
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7440-47-3	
Copper	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7440-50-8	
Iron	64.0 ug/L		50.0	1	11/21/11 18:42	12/02/11 01:52	7439-89-6	
Lead	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 01:52	7439-92-1	CH
Magnesium	6860 ug/L		5.0	1	11/21/11 18:42	12/02/11 01:52	7439-95-4	
Manganese	27.3 ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7439-96-5	
Nickel	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7440-02-0	
Potassium	631 ug/L		20.0	1	11/21/11 18:42	12/02/11 01:52	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 01:52	7440-22-4	
Sodium	2800 ug/L		50.0	1	11/21/11 18:42	12/02/11 01:52	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 01:52	7440-28-0	
Total Hardness by 2340B	147000 ug/L		710	10	11/21/11 18:42	12/02/11 02:06		
Vanadium	0.19 ug/L		0.10	1	11/21/11 18:42	12/02/11 01:52	7440-62-2	
Zinc	ND ug/L		5.0	1	11/21/11 18:42	12/02/11 01:52	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	12.8 ug/L		4.0	1	11/21/11 04:52	12/02/11 00:06	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7440-38-2	
Barium, Dissolved	67.1 ug/L		0.30	1	11/21/11 04:52	12/02/11 00:06	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/02/11 00:06	7440-41-7	
Cadmium, Dissolved	ND ug/L		0.080	1	11/21/11 04:52	12/02/11 00:06	7440-43-9	
Calcium, Dissolved	38800 ug/L		100	5	11/21/11 04:52	12/01/11 06:27	7440-70-2	M1
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7440-47-3	
Copper, Dissolved	1.9 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 04:52	12/02/11 00:06	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:06	7439-92-1	CH
Magnesium, Dissolved	6620 ug/L		5.0	1	11/21/11 04:52	12/02/11 00:06	7439-95-4	
Manganese, Dissolved	25.0 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7439-96-5	
Nickel, Dissolved	2.1 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7440-02-0	
Potassium, Dissolved	654 ug/L		20.0	1	11/21/11 04:52	12/02/11 00:06	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:06	7440-22-4	
Sodium, Dissolved	2780 ug/L		50.0	1	11/21/11 04:52	12/02/11 00:06	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:06	7440-28-0	
Vanadium, Dissolved	0.10 ug/L		0.10	1	11/21/11 04:52	12/02/11 00:06	7440-62-2	
Zinc, Dissolved	6.0 ug/L		5.0	1	11/21/11 04:52	12/02/11 00:06	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-1	Lab ID: 60110316001	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:32	7439-97-6	M1
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:14	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	291	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	186	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.14	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	102	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	102	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	174	mg/L	5.0	1		11/16/11 11:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	48.6	mg/L	5.0	5		11/20/11 01:33	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 12:55	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-2	Lab ID: 60110316002	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	27.2 ug/L		4.0	1	11/21/11 18:42	12/02/11 12:10	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7440-38-2	
Barium	71.0 ug/L		0.30	1	11/21/11 18:42	12/02/11 12:10	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 12:10	7440-41-7	
Cadmium	ND ug/L		0.080	1	11/21/11 18:42	12/02/11 12:10	7440-43-9	
Calcium	63500 ug/L		200	10	11/21/11 18:42	12/02/11 02:34	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7440-47-3	
Copper	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7440-50-8	
Iron	81.2 ug/L		50.0	1	11/21/11 18:42	12/02/11 12:10	7439-89-6	
Lead	0.46 ug/L		0.10	1	11/21/11 18:42	12/02/11 12:10	7439-92-1	
Magnesium	8590 ug/L		5.0	1	11/21/11 18:42	12/02/11 12:10	7439-95-4	
Manganese	256 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7439-96-5	
Nickel	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7440-02-0	
Potassium	915 ug/L		20.0	1	11/21/11 18:42	12/02/11 12:10	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:10	7440-22-4	
Sodium	3490 ug/L		50.0	1	11/21/11 18:42	12/02/11 12:10	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 12:10	7440-28-0	
Total Hardness by 2340B	194000 ug/L		710	10	11/21/11 18:42	12/02/11 02:34		
Vanadium	0.13 ug/L		0.10	1	11/21/11 18:42	12/02/11 12:10	7440-62-2	
Zinc	7.6 ug/L		5.0	1	11/21/11 18:42	12/02/11 12:10	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.3 ug/L		4.0	1	11/21/11 04:52	12/01/11 04:44	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7440-38-2	
Barium, Dissolved	68.0 ug/L		0.30	1	11/21/11 04:52	12/01/11 04:44	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/01/11 04:44	7440-41-7	
Cadmium, Dissolved	ND ug/L		0.080	1	11/21/11 04:52	12/01/11 04:44	7440-43-9	
Calcium, Dissolved	54000 ug/L		100	5	11/21/11 04:52	12/01/11 04:49	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7440-47-3	
Copper, Dissolved	1.9 ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 04:52	12/01/11 04:44	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/01/11 04:44	7439-92-1	
Magnesium, Dissolved	8070 ug/L		5.0	1	11/21/11 04:52	12/01/11 04:44	7439-95-4	
Manganese, Dissolved	257 ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7439-96-5	
Nickel, Dissolved	2.1 ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7440-02-0	
Potassium, Dissolved	854 ug/L		20.0	1	11/21/11 04:52	12/01/11 04:44	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 04:44	7440-22-4	
Sodium, Dissolved	3230 ug/L		50.0	1	11/21/11 04:52	12/01/11 04:44	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/01/11 04:44	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/01/11 04:44	7440-62-2	
Zinc, Dissolved	9.9 ug/L		5.0	1	11/21/11 04:52	12/01/11 04:44	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-2	Lab ID: 60110316002	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:39	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:20	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	364	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	233	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.18	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	108	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	108	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	230	mg/L	5.0	1		11/16/11 11:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	83.9	mg/L	5.0	5		11/20/11 02:39	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	0.0052	mg/L	0.0050	1		11/21/11 12:58	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-3	Lab ID: 60110316003	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	163 ug/L		4.0	1	11/21/11 18:42	12/02/11 02:39	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7440-38-2	
Barium	18.8 ug/L		0.30	1	11/21/11 18:42	12/02/11 02:39	7440-39-3	
Beryllium	0.37 ug/L		0.20	1	11/21/11 18:42	12/02/11 02:39	7440-41-7	
Cadmium	17.6 ug/L		0.080	1	11/21/11 18:42	12/02/11 02:39	7440-43-9	
Calcium	232000 ug/L		200	10	11/21/11 18:42	12/02/11 02:43	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7440-47-3	
Copper	29.9 ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7440-50-8	
Iron	3580 ug/L		50.0	1	11/21/11 18:42	12/02/11 02:39	7439-89-6	
Lead	1.3 ug/L		0.20	2	11/21/11 18:42	12/02/11 12:14	7439-92-1	
Magnesium	19600 ug/L		5.0	1	11/21/11 18:42	12/02/11 02:39	7439-95-4	
Manganese	2470 ug/L		5.0	10	11/21/11 18:42	12/02/11 02:43	7439-96-5	
Nickel	6.1 ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7440-02-0	
Potassium	1550 ug/L		20.0	1	11/21/11 18:42	12/02/11 02:39	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:39	7440-22-4	
Sodium	10000 ug/L		50.0	1	11/21/11 18:42	12/02/11 02:39	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 02:39	7440-28-0	
Total Hardness by 2340B	661000 ug/L		710	10	11/21/11 18:42	12/02/11 02:43		
Vanadium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 02:39	7440-62-2	
Zinc	3680 ug/L		50.0	10	11/21/11 18:42	12/02/11 02:43	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	36.7 ug/L		4.0	1	11/21/11 04:52	12/02/11 00:47	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7440-38-2	
Barium, Dissolved	17.8 ug/L		0.30	1	11/21/11 04:52	12/02/11 00:47	7440-39-3	
Beryllium, Dissolved	0.34 ug/L		0.20	1	11/21/11 04:52	12/02/11 00:47	7440-41-7	
Cadmium, Dissolved	16.6 ug/L		0.080	1	11/21/11 04:52	12/02/11 00:47	7440-43-9	
Calcium, Dissolved	212000 ug/L		200	10	11/21/11 04:52	12/02/11 00:52	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7440-47-3	
Copper, Dissolved	5.8 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7440-50-8	
Iron, Dissolved	1070 ug/L		50.0	1	11/21/11 04:52	12/02/11 00:47	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:47	7439-92-1	CH
Magnesium, Dissolved	19100 ug/L		5.0	1	11/21/11 04:52	12/02/11 00:47	7439-95-4	
Manganese, Dissolved	2310 ug/L		5.0	10	11/21/11 04:52	12/02/11 00:52	7439-96-5	
Nickel, Dissolved	6.2 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7440-02-0	
Potassium, Dissolved	1500 ug/L		20.0	1	11/21/11 04:52	12/02/11 00:47	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:47	7440-22-4	
Sodium, Dissolved	9520 ug/L		50.0	1	11/21/11 04:52	12/02/11 00:47	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:47	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:47	7440-62-2	
Zinc, Dissolved	3340 ug/L		50.0	10	11/21/11 04:52	12/02/11 00:52	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-3	Lab ID: 60110316003	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:41	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:22	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1090	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	696	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.54	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	98.0	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	98.0	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	914	mg/L	5.0	1		11/16/11 11:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	6.0	mg/L	5.0	1		11/17/11 14:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	573	mg/L	50.0	50		11/20/11 03:29	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 12:59	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-4	Lab ID: 60110316004	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	121 ug/L		4.0	1	11/21/11 18:42	12/02/11 02:48	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7440-38-2	
Barium	19.0 ug/L		0.30	1	11/21/11 18:42	12/02/11 02:48	7440-39-3	
Beryllium	0.32 ug/L		0.20	1	11/21/11 18:42	12/02/11 02:48	7440-41-7	
Cadmium	16.4 ug/L		0.080	1	11/21/11 18:42	12/02/11 02:48	7440-43-9	
Calcium	221000 ug/L		400	20	11/21/11 18:42	12/02/11 02:53	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7440-47-3	
Copper	19.2 ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7440-50-8	
Iron	2680 ug/L		50.0	1	11/21/11 18:42	12/02/11 02:48	7439-89-6	
Lead	1.0 ug/L		0.20	2	11/21/11 18:42	12/02/11 12:19	7439-92-1	
Magnesium	19600 ug/L		5.0	1	11/21/11 18:42	12/02/11 02:48	7439-95-4	
Manganese	2340 ug/L		10.0	20	11/21/11 18:42	12/02/11 02:53	7439-96-5	
Nickel	6.1 ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7440-02-0	
Potassium	1570 ug/L		20.0	1	11/21/11 18:42	12/02/11 02:48	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 02:48	7440-22-4	
Sodium	10200 ug/L		50.0	1	11/21/11 18:42	12/02/11 02:48	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 02:48	7440-28-0	
Total Hardness by 2340B	633000 ug/L		1420	20	11/21/11 18:42	12/02/11 02:53		
Vanadium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 02:48	7440-62-2	
Zinc	3340 ug/L		100	20	11/21/11 18:42	12/02/11 02:53	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	8.4 ug/L		4.0	1	11/21/11 04:52	12/02/11 00:57	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7440-38-2	
Barium, Dissolved	18.0 ug/L		0.30	1	11/21/11 04:52	12/02/11 00:57	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/02/11 00:57	7440-41-7	
Cadmium, Dissolved	14.2 ug/L		0.080	1	11/21/11 04:52	12/02/11 00:57	7440-43-9	
Calcium, Dissolved	214000 ug/L		400	20	11/21/11 04:52	12/02/11 01:01	7440-70-2	
Chromium, Dissolved	0.53 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7440-47-3	
Copper, Dissolved	1.0 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 04:52	12/02/11 00:57	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:57	7439-92-1	CH
Magnesium, Dissolved	19500 ug/L		5.0	1	11/21/11 04:52	12/02/11 00:57	7439-95-4	
Manganese, Dissolved	2250 ug/L		10.0	20	11/21/11 04:52	12/02/11 01:01	7439-96-5	
Nickel, Dissolved	6.0 ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7440-02-0	
Potassium, Dissolved	1550 ug/L		20.0	1	11/21/11 04:52	12/02/11 00:57	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 00:57	7440-22-4	
Sodium, Dissolved	9720 ug/L		50.0	1	11/21/11 04:52	12/02/11 00:57	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:57	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 00:57	7440-62-2	
Zinc, Dissolved	2840 ug/L		100	20	11/21/11 04:52	12/02/11 01:01	7440-66-6	

Date: 12/07/2011 10:26 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-4	Lab ID: 60110316004	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:47	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:28	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1130	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	726	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.56	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	96.0	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	96.0	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	947	mg/L	5.0	1		11/16/11 11:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	590	mg/L	50.0	50		11/20/11 03:45	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:03	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-5	Lab ID: 60110316005	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	72.6 ug/L		4.0	1	11/21/11 18:42	12/02/11 03:11	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7440-38-2	
Barium	19.1 ug/L		0.30	1	11/21/11 18:42	12/02/11 03:11	7440-39-3	
Beryllium	0.23 ug/L		0.20	1	11/21/11 18:42	12/02/11 03:11	7440-41-7	
Cadmium	14.7 ug/L		0.080	1	11/21/11 18:42	12/02/11 03:11	7440-43-9	
Calcium	228000 ug/L		400	20	11/21/11 18:42	12/02/11 03:16	7440-70-2	
Chromium	0.51 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7440-47-3	
Copper	10.8 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7440-50-8	
Iron	1540 ug/L		50.0	1	11/21/11 18:42	12/02/11 03:11	7439-89-6	
Lead	0.51 ug/L		0.10	1	11/21/11 18:42	12/02/11 03:11	7439-92-1	
Magnesium	20900 ug/L		5.0	1	11/21/11 18:42	12/02/11 03:11	7439-95-4	
Manganese	2190 ug/L		10.0	20	11/21/11 18:42	12/02/11 03:16	7439-96-5	
Nickel	5.8 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7440-02-0	
Potassium	1740 ug/L		20.0	1	11/21/11 18:42	12/02/11 03:11	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:11	7440-22-4	
Sodium	10500 ug/L		50.0	1	11/21/11 18:42	12/02/11 03:11	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:11	7440-28-0	
Total Hardness by 2340B	655000 ug/L		1420	20	11/21/11 18:42	12/02/11 03:16		
Vanadium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:11	7440-62-2	
Zinc	2980 ug/L		100	20	11/21/11 18:42	12/02/11 03:16	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	5.3 ug/L		4.0	1	11/21/11 04:52	12/02/11 01:06	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7440-38-2	
Barium, Dissolved	18.2 ug/L		0.30	1	11/21/11 04:52	12/02/11 01:06	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/02/11 01:06	7440-41-7	
Cadmium, Dissolved	12.8 ug/L		0.080	1	11/21/11 04:52	12/02/11 01:06	7440-43-9	
Calcium, Dissolved	222000 ug/L		400	20	11/21/11 04:52	12/02/11 01:11	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7440-47-3	
Copper, Dissolved	0.89 ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 04:52	12/02/11 01:06	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 01:06	7439-92-1	CH
Magnesium, Dissolved	20300 ug/L		5.0	1	11/21/11 04:52	12/02/11 01:06	7439-95-4	
Manganese, Dissolved	2130 ug/L		10.0	20	11/21/11 04:52	12/02/11 01:11	7439-96-5	
Nickel, Dissolved	5.8 ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7440-02-0	
Potassium, Dissolved	1670 ug/L		20.0	1	11/21/11 04:52	12/02/11 01:06	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 01:06	7440-22-4	
Sodium, Dissolved	10100 ug/L		50.0	1	11/21/11 04:52	12/02/11 01:06	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 01:06	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 01:06	7440-62-2	
Zinc, Dissolved	2590 ug/L		100	20	11/21/11 04:52	12/02/11 01:11	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-5	Lab ID: 60110316005	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:49	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:30	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1180	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	754	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.58	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	104	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	104	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	939	mg/L	5.0	1		11/16/11 11:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:46		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	583	mg/L	50.0	50		11/20/11 04:02	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:04	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-6	Lab ID: 60110316006	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	50.6 ug/L		4.0	1	11/21/11 18:42	12/02/11 03:20	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7440-38-2	
Barium	19.6 ug/L		0.30	1	11/21/11 18:42	12/02/11 03:20	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 03:20	7440-41-7	
Cadmium	13.7 ug/L		0.080	1	11/21/11 18:42	12/02/11 03:20	7440-43-9	
Calcium	234000 ug/L		400	20	11/21/11 18:42	12/02/11 03:25	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7440-47-3	
Copper	6.2 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7440-50-8	
Iron	1130 ug/L		50.0	1	11/21/11 18:42	12/02/11 03:20	7439-89-6	
Lead	0.30 ug/L		0.10	1	11/21/11 18:42	12/02/11 03:20	7439-92-1	
Magnesium	22900 ug/L		100	20	11/21/11 18:42	12/02/11 03:25	7439-95-4	
Manganese	2050 ug/L		10.0	20	11/21/11 18:42	12/02/11 03:25	7439-96-5	
Nickel	5.5 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7440-02-0	
Potassium	2240 ug/L		20.0	1	11/21/11 18:42	12/02/11 03:20	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:20	7440-22-4	
Sodium	12400 ug/L		50.0	1	11/21/11 18:42	12/02/11 03:20	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:20	7440-28-0	
Total Hardness by 2340B	678000 ug/L		1420	20	11/21/11 18:42	12/02/11 03:25		
Vanadium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:20	7440-62-2	
Zinc	2920 ug/L		100	20	11/21/11 18:42	12/02/11 03:25	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.5 ug/L		4.0	1	11/21/11 04:52	12/01/11 05:31	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7440-38-2	
Barium, Dissolved	18.3 ug/L		0.30	1	11/21/11 04:52	12/01/11 05:31	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/01/11 05:31	7440-41-7	
Cadmium, Dissolved	12.1 ug/L		0.080	1	11/21/11 04:52	12/01/11 05:31	7440-43-9	
Calcium, Dissolved	221000 ug/L		400	20	11/21/11 04:52	12/02/11 01:29	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7440-47-3	
Copper, Dissolved	0.93 ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7440-50-8	
Iron, Dissolved	63.6 ug/L		50.0	1	11/21/11 04:52	12/01/11 05:31	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/01/11 05:31	7439-92-1	
Magnesium, Dissolved	21600 ug/L		5.0	1	11/21/11 04:52	12/01/11 05:31	7439-95-4	
Manganese, Dissolved	2020 ug/L		2.5	5	11/21/11 04:52	12/01/11 05:35	7439-96-5	
Nickel, Dissolved	5.3 ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7440-02-0	
Potassium, Dissolved	2020 ug/L		20.0	1	11/21/11 04:52	12/01/11 05:31	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/01/11 05:31	7440-22-4	
Sodium, Dissolved	11200 ug/L		50.0	1	11/21/11 04:52	12/01/11 05:31	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/01/11 05:31	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/01/11 05:31	7440-62-2	
Zinc, Dissolved	2660 ug/L		100	20	11/21/11 04:52	12/02/11 01:29	7440-66-6	CH

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-6	Lab ID: 60110316006	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:51	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:32	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1220	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	783	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.61	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	128	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	128	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	995	mg/L	5.0	1		11/16/11 11:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:46		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	612	mg/L	50.0	50		11/20/11 04:19	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:04	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-7	Lab ID: 60110316007	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	22.6 ug/L		4.0	1	11/21/11 18:42	12/02/11 03:39	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7440-36-0	
Arsenic	1.1 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7440-38-2	
Barium	63.6 ug/L		0.30	1	11/21/11 18:42	12/02/11 03:39	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 03:39	7440-41-7	
Cadmium	1.8 ug/L		0.080	1	11/21/11 18:42	12/02/11 03:39	7440-43-9	
Calcium	102000 ug/L		400	20	11/21/11 18:42	12/02/11 03:44	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7440-47-3	
Copper	1.0 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7440-50-8	
Iron	328 ug/L		50.0	1	11/21/11 18:42	12/02/11 03:39	7439-89-6	
Lead	0.14 ug/L		0.10	1	11/21/11 18:42	12/02/11 03:39	7439-92-1	
Magnesium	14000 ug/L		5.0	1	11/21/11 18:42	12/02/11 03:39	7439-95-4	
Manganese	507 ug/L		10.0	20	11/21/11 18:42	12/02/11 03:44	7439-96-5	
Nickel	1.2 ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7440-02-0	
Potassium	2130 ug/L		20.0	1	11/21/11 18:42	12/02/11 03:39	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:39	7440-22-4	
Sodium	7430 ug/L		50.0	1	11/21/11 18:42	12/02/11 03:39	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:39	7440-28-0	
Total Hardness by 2340B	311000 ug/L		1420	20	11/21/11 18:42	12/02/11 03:44		
Vanadium	0.10 ug/L		0.10	1	11/21/11 18:42	12/02/11 03:39	7440-62-2	
Zinc	389 ug/L		5.0	1	11/21/11 18:42	12/02/11 03:39	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.9 ug/L		4.0	1	11/21/11 04:52	12/02/11 11:46	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7440-36-0	
Arsenic, Dissolved	1.0 ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7440-38-2	
Barium, Dissolved	61.3 ug/L		0.30	1	11/21/11 04:52	12/02/11 11:46	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/02/11 11:46	7440-41-7	
Cadmium, Dissolved	1.7 ug/L		0.080	1	11/21/11 04:52	12/02/11 11:46	7440-43-9	
Calcium, Dissolved	90600 ug/L		100	5	11/21/11 04:52	12/01/11 05:45	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7440-47-3	
Copper, Dissolved	2.0 ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7440-50-8	
Iron, Dissolved	205 ug/L		50.0	1	11/21/11 04:52	12/02/11 11:46	7439-89-6	
Lead, Dissolved	0.13 ug/L		0.10	1	11/21/11 04:52	12/02/11 11:46	7439-92-1	
Magnesium, Dissolved	13700 ug/L		5.0	1	11/21/11 04:52	12/02/11 11:46	7439-95-4	
Manganese, Dissolved	483 ug/L		2.5	5	11/21/11 04:52	12/01/11 05:45	7439-96-5	
Nickel, Dissolved	2.4 ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7440-02-0	
Potassium, Dissolved	2130 ug/L		20.0	1	11/21/11 04:52	12/02/11 11:46	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:46	7440-22-4	
Sodium, Dissolved	7460 ug/L		50.0	1	11/21/11 04:52	12/02/11 11:46	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 11:46	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 11:46	7440-62-2	
Zinc, Dissolved	368 ug/L		5.0	1	11/21/11 04:52	12/02/11 11:46	7440-66-6	

Date: 12/07/2011 10:26 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-7	Lab ID: 60110316007	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:53	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:34	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	595	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	381	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.29	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	150	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	150	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	396	mg/L	5.0	1		11/16/11 11:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	185	mg/L	10.0	10		11/20/11 04:35	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:07	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-8	Lab ID: 60110316008	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	165	ug/L	4.0	1	11/21/11 18:42	12/02/11 03:48	7429-90-5	
Antimony	ND	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7440-36-0	
Arsenic	ND	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7440-38-2	
Barium	19.4	ug/L	0.30	1	11/21/11 18:42	12/02/11 03:48	7440-39-3	
Beryllium	0.45	ug/L	0.20	1	11/21/11 18:42	12/02/11 03:48	7440-41-7	
Cadmium	17.5	ug/L	0.080	1	11/21/11 18:42	12/02/11 03:48	7440-43-9	
Calcium	218000	ug/L	400	20	11/21/11 18:42	12/02/11 03:53	7440-70-2	
Chromium	ND	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7440-47-3	
Copper	30.0	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7440-50-8	
Iron	3580	ug/L	50.0	1	11/21/11 18:42	12/02/11 03:48	7439-89-6	
Lead	1.1	ug/L	0.10	1	11/21/11 18:42	12/02/11 03:48	7439-92-1	
Magnesium	20000	ug/L	5.0	1	11/21/11 18:42	12/02/11 03:48	7439-95-4	
Manganese	2380	ug/L	10.0	20	11/21/11 18:42	12/02/11 03:53	7439-96-5	
Nickel	6.2	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7440-02-0	
Potassium	1590	ug/L	20.0	1	11/21/11 18:42	12/02/11 03:48	7440-09-7	
Selenium	ND	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7782-49-2	
Silver	ND	ug/L	0.50	1	11/21/11 18:42	12/02/11 03:48	7440-22-4	
Sodium	9970	ug/L	50.0	1	11/21/11 18:42	12/02/11 03:48	7440-23-5	
Thallium	ND	ug/L	0.10	1	11/21/11 18:42	12/02/11 03:48	7440-28-0	
Total Hardness by 2340B	626000	ug/L	1420	20	11/21/11 18:42	12/02/11 03:53		
Vanadium	ND	ug/L	0.10	1	11/21/11 18:42	12/02/11 03:48	7440-62-2	
Zinc	3540	ug/L	100	20	11/21/11 18:42	12/02/11 03:53	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	35.3	ug/L	4.0	1	11/21/11 04:52	12/02/11 01:34	7429-90-5	
Antimony, Dissolved	ND	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7440-36-0	
Arsenic, Dissolved	ND	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7440-38-2	
Barium, Dissolved	18.9	ug/L	0.30	1	11/21/11 04:52	12/02/11 01:34	7440-39-3	
Beryllium, Dissolved	0.36	ug/L	0.20	1	11/21/11 04:52	12/02/11 01:34	7440-41-7	
Cadmium, Dissolved	16.9	ug/L	0.080	1	11/21/11 04:52	12/02/11 01:34	7440-43-9	
Calcium, Dissolved	211000	ug/L	400	20	11/21/11 04:52	12/02/11 01:38	7440-70-2	
Chromium, Dissolved	ND	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7440-47-3	
Copper, Dissolved	5.3	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7440-50-8	
Iron, Dissolved	1130	ug/L	50.0	1	11/21/11 04:52	12/02/11 01:34	7439-89-6	
Lead, Dissolved	ND	ug/L	0.10	1	11/21/11 04:52	12/02/11 01:34	7439-92-1	CH
Magnesium, Dissolved	19700	ug/L	5.0	1	11/21/11 04:52	12/02/11 01:34	7439-95-4	
Manganese, Dissolved	2290	ug/L	10.0	20	11/21/11 04:52	12/02/11 01:38	7439-96-5	
Nickel, Dissolved	6.1	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7440-02-0	
Potassium, Dissolved	1550	ug/L	20.0	1	11/21/11 04:52	12/02/11 01:34	7440-09-7	
Selenium, Dissolved	ND	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7782-49-2	
Silver, Dissolved	ND	ug/L	0.50	1	11/21/11 04:52	12/02/11 01:34	7440-22-4	
Sodium, Dissolved	9830	ug/L	50.0	1	11/21/11 04:52	12/02/11 01:34	7440-23-5	
Thallium, Dissolved	ND	ug/L	0.10	1	11/21/11 04:52	12/02/11 01:34	7440-28-0	
Vanadium, Dissolved	ND	ug/L	0.10	1	11/21/11 04:52	12/02/11 01:34	7440-62-2	
Zinc, Dissolved	3380	ug/L	100	20	11/21/11 04:52	12/02/11 01:38	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-8	Lab ID: 60110316008	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 12:55	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:36	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1130	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	723	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.56	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	98.0	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	98.0	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	918	mg/L	5.0	1		11/16/11 11:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	580	mg/L	50.0	50		11/20/11 04:52	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	0.0053	mg/L	0.0050	1		11/21/11 13:07	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-4-SW	Lab ID: 60110316009	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	36.4 ug/L		4.0	1	11/21/11 18:42	12/02/11 12:42	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7440-38-2	
Barium	64.2 ug/L		0.30	1	11/21/11 18:42	12/02/11 12:42	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 12:42	7440-41-7	
Cadmium	0.99 ug/L		0.080	1	11/21/11 18:42	12/02/11 12:42	7440-43-9	
Calcium	69100 ug/L		100	5	11/21/11 18:42	12/02/11 04:12	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7440-47-3	
Copper	1.0 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7440-50-8	
Iron	163 ug/L		50.0	1	11/21/11 18:42	12/02/11 12:42	7439-89-6	
Lead	0.44 ug/L		0.10	1	11/21/11 18:42	12/02/11 12:42	7439-92-1	
Magnesium	9420 ug/L		5.0	1	11/21/11 18:42	12/02/11 12:42	7439-95-4	
Manganese	236 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7439-96-5	
Nickel	0.76 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7440-02-0	
Potassium	1120 ug/L		20.0	1	11/21/11 18:42	12/02/11 12:42	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:42	7440-22-4	
Sodium	4100 ug/L		50.0	1	11/21/11 18:42	12/02/11 12:42	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 12:42	7440-28-0	
Total Hardness by 2340B	211000 ug/L		355	5	11/21/11 18:42	12/02/11 04:12		
Vanadium	0.10 ug/L		0.10	1	11/21/11 18:42	12/02/11 12:42	7440-62-2	
Zinc	218 ug/L		5.0	1	11/21/11 18:42	12/02/11 12:42	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	10.0 ug/L		4.0	1	11/21/11 04:52	12/02/11 11:51	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7440-38-2	
Barium, Dissolved	61.3 ug/L		0.30	1	11/21/11 04:52	12/02/11 11:51	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/02/11 11:51	7440-41-7	
Cadmium, Dissolved	0.89 ug/L		0.080	1	11/21/11 04:52	12/02/11 11:51	7440-43-9	
Calcium, Dissolved	66700 ug/L		100	5	11/21/11 04:52	12/02/11 01:48	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7440-47-3	
Copper, Dissolved	0.82 ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 04:52	12/02/11 11:51	7439-89-6	
Lead, Dissolved	0.12 ug/L		0.10	1	11/21/11 04:52	12/02/11 11:51	7439-92-1	
Magnesium, Dissolved	9030 ug/L		5.0	1	11/21/11 04:52	12/02/11 11:51	7439-95-4	
Manganese, Dissolved	233 ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7439-96-5	
Nickel, Dissolved	1.3 ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7440-02-0	
Potassium, Dissolved	1110 ug/L		20.0	1	11/21/11 04:52	12/02/11 11:51	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 11:51	7440-22-4	
Sodium, Dissolved	4100 ug/L		50.0	1	11/21/11 04:52	12/02/11 11:51	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 11:51	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 11:51	7440-62-2	
Zinc, Dissolved	203 ug/L		5.0	1	11/21/11 04:52	12/02/11 11:51	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-4-SW	Lab ID: 60110316009	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 13:02	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:38	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	410	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	262	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.20	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	118	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	118	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	265	mg/L	5.0	1		11/16/11 11:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	98.0	mg/L	10.0	10		11/20/11 05:41	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:08	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-G	Lab ID: 60110316010	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	44.8 ug/L		4.0	1	11/21/11 18:42	12/02/11 12:46	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7440-38-2	
Barium	80.9 ug/L		0.30	1	11/21/11 18:42	12/02/11 12:46	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 12:46	7440-41-7	
Cadmium	1.1 ug/L		0.080	1	11/21/11 18:42	12/02/11 12:46	7440-43-9	
Calcium	85000 ug/L		100	5	11/21/11 18:42	12/02/11 04:21	7440-70-2	
Chromium	0.63 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7440-47-3	
Copper	1.0 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7440-50-8	
Iron	164 ug/L		50.0	1	11/21/11 18:42	12/02/11 12:46	7439-89-6	
Lead	0.72 ug/L		0.10	1	11/21/11 18:42	12/02/11 12:46	7439-92-1	
Magnesium	11000 ug/L		5.0	1	11/21/11 18:42	12/02/11 12:46	7439-95-4	
Manganese	286 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7439-96-5	
Nickel	0.81 ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7440-02-0	
Potassium	1360 ug/L		20.0	1	11/21/11 18:42	12/02/11 12:46	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 12:46	7440-22-4	
Sodium	5100 ug/L		50.0	1	11/21/11 18:42	12/02/11 12:46	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 12:46	7440-28-0	
Total Hardness by 2340B	258000 ug/L		355	5	11/21/11 18:42	12/02/11 04:21		
Vanadium	0.22 ug/L		0.10	1	11/21/11 18:42	12/02/11 12:46	7440-62-2	
Zinc	239 ug/L		5.0	1	11/21/11 18:42	12/02/11 12:46	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	19.3 ug/L		4.0	1	11/21/11 04:52	12/02/11 02:25	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7440-38-2	
Barium, Dissolved	75.2 ug/L		0.30	1	11/21/11 04:52	12/02/11 02:25	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 04:52	12/02/11 02:25	7440-41-7	
Cadmium, Dissolved	0.96 ug/L		0.080	1	11/21/11 04:52	12/02/11 02:25	7440-43-9	
Calcium, Dissolved	72700 ug/L		100	5	11/21/11 04:52	12/01/11 06:36	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7440-47-3	
Copper, Dissolved	0.87 ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 04:52	12/02/11 02:25	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 02:25	7439-92-1	CH
Magnesium, Dissolved	10100 ug/L		5.0	1	11/21/11 04:52	12/02/11 02:25	7439-95-4	
Manganese, Dissolved	253 ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7439-96-5	
Nickel, Dissolved	1.6 ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7440-02-0	
Potassium, Dissolved	1300 ug/L		20.0	1	11/21/11 04:52	12/02/11 02:25	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 04:52	12/02/11 02:25	7440-22-4	
Sodium, Dissolved	4830 ug/L		50.0	1	11/21/11 04:52	12/02/11 02:25	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 04:52	12/02/11 02:25	7440-28-0	
Vanadium, Dissolved	0.10 ug/L		0.10	1	11/21/11 04:52	12/02/11 02:25	7440-62-2	
Zinc, Dissolved	212 ug/L		5.0	1	11/21/11 04:52	12/02/11 02:25	7440-66-6	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: DR-G	Lab ID: 60110316010	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 07:46	11/30/11 13:04	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 07:51	11/30/11 10:45	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	478	umhos/cm	10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	306	mg/L	6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.23	PSU	0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	144	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	144	mg/L	20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	314	mg/L	5.0	1		11/16/11 11:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/17/11 14:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	127	mg/L	10.0	10		11/20/11 12:56	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	0.0069	mg/L	0.0050	1		11/21/11 13:08	57-12-5	

ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: FB	Lab ID: 60110316011	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	ND ug/L		4.0	1	11/21/11 18:42	12/02/11 03:30	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7440-38-2	
Barium	ND ug/L		0.30	1	11/21/11 18:42	12/02/11 03:30	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 18:42	12/02/11 03:30	7440-41-7	
Cadmium	ND ug/L		0.080	1	11/21/11 18:42	12/02/11 03:30	7440-43-9	
Calcium	ND ug/L		20.0	1	11/21/11 18:42	12/02/11 03:30	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7440-47-3	
Copper	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7440-50-8	
Iron	ND ug/L		50.0	1	11/21/11 18:42	12/02/11 03:30	7439-89-6	
Lead	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:30	7439-92-1	
Magnesium	ND ug/L		5.0	1	11/21/11 18:42	12/02/11 03:30	7439-95-4	
Manganese	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7439-96-5	
Nickel	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7440-02-0	
Potassium	ND ug/L		20.0	1	11/21/11 18:42	12/02/11 03:30	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 18:42	12/02/11 03:30	7440-22-4	
Sodium	ND ug/L		50.0	1	11/21/11 18:42	12/02/11 03:30	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:30	7440-28-0	
Total Hardness by 2340B	ND ug/L		71.0	1	11/21/11 18:42	12/02/11 03:30		
Vanadium	ND ug/L		0.10	1	11/21/11 18:42	12/02/11 03:30	7440-62-2	
Zinc	ND ug/L		5.0	1	11/21/11 18:42	12/02/11 03:30	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	11/21/11 20:01	12/05/11 23:54	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7440-38-2	
Barium, Dissolved	ND ug/L		0.30	1	11/21/11 20:01	12/05/11 23:54	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/05/11 23:54	7440-41-7	
Cadmium, Dissolved	ND ug/L		0.080	1	11/21/11 20:01	12/05/11 23:54	7440-43-9	
Calcium, Dissolved	ND ug/L		20.0	1	11/21/11 20:01	12/05/11 23:54	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7440-47-3	
Copper, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 20:01	12/05/11 23:54	7439-89-6	
Lead, Dissolved	0.31 ug/L		0.10	1	11/21/11 20:01	12/05/11 23:54	7439-92-1	
Magnesium, Dissolved	ND ug/L		5.0	1	11/21/11 20:01	12/05/11 23:54	7439-95-4	
Manganese, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7439-96-5	
Nickel, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7440-02-0	
Potassium, Dissolved	ND ug/L		20.0	1	11/21/11 20:01	12/05/11 23:54	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 23:54	7440-22-4	
Sodium, Dissolved	ND ug/L		50.0	1	11/21/11 20:01	12/05/11 23:54	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/05/11 23:54	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/05/11 23:54	7440-62-2	
Zinc, Dissolved	ND ug/L		5.0	1	11/21/11 20:01	12/05/11 23:54	7440-66-6	

Date: 12/07/2011 10:26 AM

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ANALYTICAL RESULTS

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

Sample: FB	Lab ID: 60110316011	Collected: 11/10/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND ug/L		0.20	1	11/28/11 07:46	11/30/11 13:08	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND ug/L		0.20	1	11/28/11 07:51	11/30/11 10:47	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	ND umhos/cm		10.0	1		11/22/11 17:43		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	ND mg/L		6.0	1		11/23/11 10:45		
Salinity (as seawater)	0.012 PSU		0.010	1		11/23/11 10:45		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND mg/L		20.0	1		11/21/11 16:00		
Alkalinity, Carbonate (CaCO3)	ND mg/L		20.0	1		11/21/11 16:00		
Alkalinity, Total as CaCO3	ND mg/L		20.0	1		11/21/11 16:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	ND mg/L		5.0	1		11/16/11 11:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND mg/L		5.0	1		11/17/11 14:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND mg/L		1.0	1		11/20/11 06:14	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND mg/L		0.0050	1		11/21/11 13:11	57-12-5	

December 07, 2011

Mark DeFriez
Anderson Engineering Company I
977 W 2100 S.
Salt Lake City, UT 84119

RE: Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Dear Mark DeFriez:

Enclosed are the analytical results for sample(s) received by the laboratory on November 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colleen Clyne

colleen.clyne@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Rico Monitoring Wells/EH Vents
 Pace Project No.: 60110318

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
 A2LA Certification #: 2926.01
 Alaska Certification #: UST-078
 Alaska Certification #MN00064
 Arizona Certification #: AZ-0014
 Arkansas Certification #: 88-0680
 California Certification #: 01155CA
 EPA Region 8 Certification #: Pace
 Florida/NELAP Certification #: E87605
 Georgia Certification #: 959
 Idaho Certification #: MN00064
 Illinois Certification #: 200011
 Iowa Certification #: 368
 Kansas Certification #: E-10167
 Louisiana Certification #: 03086
 Louisiana Certification #: LA080009
 Maine Certification #: 2007029
 Maryland Certification #: 322
 Michigan DEQ Certification #: 9909
 Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
 Montana Certification #: MT CERT0092
 Nebraska Certification #: Pace
 Nevada Certification #: MN_00064
 New Jersey Certification #: MN-002
 New Mexico Certification #: Pace
 New York Certification #: 11647
 North Carolina Certification #: 530
 North Dakota Certification #: R-036
 North Dakota Certification #: R-036A
 Ohio VAP Certification #: CL101
 Oklahoma Certification #: D9921
 Oklahoma Certification #: 9507
 Oregon Certification #: MN200001
 Pennsylvania Certification #: 68-00563
 Puerto Rico Certification
 Tennessee Certification #: 02818
 Texas Certification #: T104704192
 Washington Certification #: C754
 Wisconsin Certification #: 999407970

Montana Certification IDs

602 South 25th Street, Billings, MT 59101
 EPA Region 8 Certification #: 8TMS-Q
 Idaho Certification #: MT00012

Montana Certification #: MT CERT0040
 NVLAP Certification #: 101292-0
 Minnesota Dept of Health Certification #: 030-999-442

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
 A2LA Certification #: 2456.01
 Arkansas Certification #: 05-008-0
 Illinois Certification #: 001191
 Iowa Certification #: 118
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
 Nevada Certification #: KS000212008A
 Oklahoma Certification #: 9205/9935
 Texas Certification #: T104704407-08-TX
 Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: Rico Monitoring Wells/EH Vents
 Pace Project No.: 60110318

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60110318001	MW-1 SHALLOW	Water	11/11/11 08:00	11/15/11 09:00
60110318002	MW-1 DEEP	Water	11/11/11 08:00	11/15/11 09:00
60110318003	MW-3 SHALLOW	Water	11/11/11 08:00	11/15/11 09:00
60110318004	MW-3 DEEP	Water	11/11/11 08:00	11/15/11 09:00
60110318005	MW-4 SHALLOW	Water	11/11/11 08:00	11/15/11 09:00
60110318006	MW-4 DEEP	Water	11/11/11 08:00	11/15/11 09:00
60110318007	MW-5 SHALLOW	Water	11/11/11 08:00	11/15/11 09:00
60110318008	MW-5 DEEP	Water	11/11/11 08:00	11/15/11 09:00
60110318009	MW-6 SHALLOW	Water	11/11/11 08:00	11/15/11 09:00
60110318010	MW-6 DEEP	Water	11/11/11 08:00	11/15/11 09:00
60110318011	EH-1	Water	11/10/11 08:00	11/15/11 09:00
60110318012	EH-3	Water	11/10/11 08:00	11/15/11 09:00
60110318013	EH-4	Water	11/10/11 08:00	11/15/11 09:00
60110318014	EH-5	Water	11/10/11 08:00	11/15/11 09:00
60110318015	AD-2	Water	10/28/11 08:00	11/15/11 09:00
60110318016	AD-2A	Water	10/28/11 08:00	11/15/11 09:00
60110318017	AD-2B	Water	10/28/11 08:00	11/15/11 09:00

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SAMPLE ANALYTE COUNT

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110318001	MW-1 SHALLOW	EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
60110318002	MW-1 DEEP	SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
60110318003	MW-3 SHALLOW	EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
60110318004	MW-3 DEEP	SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	Method	Analysts	Analytics Reported	Laboratory
60110318005	MW-4 SHALLOW	SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
60110318006	MW-4 DEEP	SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
60110318007	MW-5 SHALLOW	SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110318008	MW-5 DEEP	SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
60110318009	MW-6 SHALLOW	EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
60110318010	MW-6 DEEP	EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
60110318011	EH-1	EPA 200.8	TEM	1	PASI-M
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M

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SAMPLE ANALYTE COUNT

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110318012	EH-3	EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
60110318013	EH-4	SM 2510B	SR1	1	
		Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		SM 2510B	SR1	1	
		Calculated	SR1	2	
60110318014	EH-5	SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M

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SAMPLE ANALYTE COUNT

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60110318015	AD-2	Calculated	SR1	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	KLB	1	PASI-K
		SM 2540D	KLB	1	PASI-K
		EPA 300.0	JPF	1	PASI-K
		SM 4500-CN-E	SRM1	1	PASI-K
		EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
60110318016	AD-2A	EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
60110318017	AD-2B	EPA 200.8	TL1	22	PASI-M
		EPA 200.8	RJS	21	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M
		EPA 7470	TEM	1	PASI-M

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

17 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/29880

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60110318001,60110318011

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1101964)
 - Aluminum
 - Calcium
 - Magnesium
 - Sodium
- MS (Lab ID: 1101966)
 - Calcium
 - Iron
 - Magnesium
 - Sodium
- MSD (Lab ID: 1101965)
 - Aluminum
 - Calcium
 - Iron
 - Magnesium
 - Sodium

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

17 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICPM/29877

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1101942)
 - Calcium, Dissolved
 - Calcium, Dissolved
- MSD (Lab ID: 1101943)
 - Calcium, Dissolved

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **EPA 7470**
Description: 7470 Mercury
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

17 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERC/6238

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60110318002, 60110318017

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1105614)
- Mercury

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **EPA 7470**

Description: 7470 Mercury, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

17 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERC/6242

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60110318001,60110318017

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1105638)
- Mercury, Dissolved

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **SM 2510B**

Description: 2510B Specific Conductance
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

14 samples were analyzed for SM 2510B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: Calculated

Description: Salinity

Client: BP Anderson Engineering Company Inc.

Date: December 07, 2011

General Information:

14 samples were analyzed for Calculated. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **SM 2320B**
Description: 2320B Alkalinity
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

14 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

14 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **SM 2540D**
Description: 2540D Total Suspended Solids
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

14 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

14 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Method: **SM 4500-CN-E**
Description: 4500CNE Cyanide, Total
Client: BP Anderson Engineering Company Inc.
Date: December 07, 2011

General Information:

14 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-1 SHALLOW	Lab ID: 60110318001	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	1030 ug/L		4.0	1	11/21/11 20:18	12/01/11 16:53	7429-90-5	M1
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7440-36-0	
Arsenic	0.91 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7440-38-2	
Barium	45.4 ug/L		0.30	1	11/21/11 20:18	12/01/11 16:53	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 20:18	12/01/11 16:53	7440-41-7	
Cadmium	0.12 ug/L		0.080	1	11/21/11 20:18	12/01/11 16:53	7440-43-9	
Calcium	236000 ug/L		200	10	11/21/11 20:18	12/01/11 17:03	7440-70-2	M1
Chromium	1.3 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7440-47-3	
Copper	3.7 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7440-50-8	
Iron	1230 ug/L		50.0	1	11/21/11 20:18	12/01/11 16:53	7439-89-6	M1
Lead	7.7 ug/L		0.10	1	11/21/11 20:18	12/01/11 16:53	7439-92-1	
Magnesium	20600 ug/L		5.0	1	11/21/11 20:18	12/01/11 16:53	7439-95-4	M1
Manganese	106 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7439-96-5	
Nickel	0.88 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7440-02-0	
Potassium	1830 ug/L		20.0	1	11/21/11 20:18	12/01/11 16:53	7440-09-7	
Selenium	13.6 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:53	7440-22-4	
Sodium	9300 ug/L		50.0	1	11/21/11 20:18	12/01/11 16:53	7440-23-5	M1
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/01/11 16:53	7440-28-0	
Total Hardness by 2340B	675000 ug/L		710	10	11/21/11 20:18	12/01/11 17:03		
Vanadium	1.4 ug/L		0.10	1	11/21/11 20:18	12/01/11 16:53	7440-62-2	
Zinc	17.8 ug/L		5.0	1	11/21/11 20:18	12/01/11 16:53	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	35.0 ug/L		4.0	1	11/21/11 20:01	12/02/11 17:41	7429-90-5	M6
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7440-38-2	
Barium, Dissolved	31.9 ug/L		0.30	1	11/21/11 20:01	12/02/11 17:41	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/02/11 17:41	7440-41-7	
Cadmium, Dissolved	0.12 ug/L		0.080	1	11/21/11 20:01	12/02/11 17:41	7440-43-9	
Calcium, Dissolved	252000 ug/L		400	20	11/21/11 20:01	12/02/11 17:55	7440-70-2	M6
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7440-47-3	
Copper, Dissolved	2.2 ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 20:01	12/02/11 17:41	7439-89-6	
Lead, Dissolved	0.46 ug/L		0.10	1	11/21/11 20:01	12/02/11 17:41	7439-92-1	
Magnesium, Dissolved	21000 ug/L		5.0	1	11/21/11 20:01	12/02/11 17:41	7439-95-4	M6
Manganese, Dissolved	34.0 ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7439-96-5	
Nickel, Dissolved	1.9 ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7440-02-0	
Potassium, Dissolved	1630 ug/L		20.0	1	11/21/11 20:01	12/02/11 17:41	7440-09-7	
Selenium, Dissolved	14.7 ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 17:41	7440-22-4	
Sodium, Dissolved	9480 ug/L		50.0	1	11/21/11 20:01	12/02/11 17:41	7440-23-5	M6
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 17:41	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 17:41	7440-62-2	
Zinc, Dissolved	13.1 ug/L		5.0	1	11/21/11 20:01	12/02/11 17:41	7440-66-6	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-1 SHALLOW	Lab ID: 60110318001	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:14	11/30/11 09:12	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:20	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1040	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	662	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.51	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	92.0	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	848	mg/L	5.0	1		11/17/11 15:02		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	52.0	mg/L	5.0	1		11/18/11 10:42		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	568	mg/L	50.0	50		11/23/11 14:21	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	0.0052	mg/L	0.0050	1		11/21/11 13:49	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-1 DEEP	Lab ID: 60110318002	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	45.5 ug/L		4.0	1	11/21/11 20:18	12/01/11 16:39	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7440-36-0	
Arsenic	1.2 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7440-38-2	
Barium	31.9 ug/L		0.30	1	11/21/11 20:18	12/01/11 16:39	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 20:18	12/01/11 16:39	7440-41-7	
Cadmium	0.54 ug/L		0.080	1	11/21/11 20:18	12/01/11 16:39	7440-43-9	
Calcium	202000 ug/L		200	10	11/21/11 20:18	12/01/11 16:42	7440-70-2	
Chromium	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7440-47-3	
Copper	2.4 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7440-50-8	
Iron	113 ug/L		50.0	1	11/21/11 20:18	12/01/11 16:39	7439-89-6	
Lead	2.4 ug/L		0.10	1	11/21/11 20:18	12/01/11 16:39	7439-92-1	
Magnesium	17800 ug/L		5.0	1	11/21/11 20:18	12/01/11 16:39	7439-95-4	
Manganese	163 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7439-96-5	
Nickel	1.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7440-02-0	
Potassium	1650 ug/L		20.0	1	11/21/11 20:18	12/01/11 16:39	7440-09-7	
Selenium	2.8 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:39	7440-22-4	
Sodium	10600 ug/L		50.0	1	11/21/11 20:18	12/01/11 16:39	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/01/11 16:39	7440-28-0	
Total Hardness by 2340B	577000 ug/L		710	10	11/21/11 20:18	12/01/11 16:42		
Vanadium	0.20 ug/L		0.10	1	11/21/11 20:18	12/01/11 16:39	7440-62-2	
Zinc	245 ug/L		5.0	1	11/21/11 20:18	12/01/11 16:39	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.7 ug/L		4.0	1	11/21/11 20:01	12/02/11 18:00	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7440-36-0	
Arsenic, Dissolved	1.0 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7440-38-2	
Barium, Dissolved	31.2 ug/L		0.30	1	11/21/11 20:01	12/02/11 18:00	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/02/11 18:00	7440-41-7	
Cadmium, Dissolved	0.51 ug/L		0.080	1	11/21/11 20:01	12/02/11 18:00	7440-43-9	
Calcium, Dissolved	209000 ug/L		400	20	11/21/11 20:01	12/02/11 18:04	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7440-47-3	
Copper, Dissolved	2.8 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 20:01	12/02/11 18:00	7439-89-6	
Lead, Dissolved	0.31 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:00	7439-92-1	
Magnesium, Dissolved	17900 ug/L		5.0	1	11/21/11 20:01	12/02/11 18:00	7439-95-4	
Manganese, Dissolved	161 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7439-96-5	
Nickel, Dissolved	2.7 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7440-02-0	
Potassium, Dissolved	1610 ug/L		20.0	1	11/21/11 20:01	12/02/11 18:00	7440-09-7	
Selenium, Dissolved	2.9 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:00	7440-22-4	
Sodium, Dissolved	10600 ug/L		50.0	1	11/21/11 20:01	12/02/11 18:00	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 18:00	7440-28-0	
Vanadium, Dissolved	0.10 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:00	7440-62-2	
Zinc, Dissolved	253 ug/L		5.0	1	11/21/11 20:01	12/02/11 18:00	7440-66-6	

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ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-1 DEEP	Lab ID: 60110318002	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:14	11/30/11 09:14	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:26	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	956	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	612	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.47	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO ₃)	102	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO ₃	102	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	723	mg/L	5.0	1		11/17/11 15:02		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		11/18/11 10:42		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	491	mg/L	50.0	50		11/23/11 15:11	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:50	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-3 SHALLOW	Lab ID: 60110318003	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	311 ug/L		4.0	1	11/21/11 20:18	12/01/11 16:46	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7440-36-0	
Arsenic	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7440-38-2	
Barium	18.5 ug/L		0.30	1	11/21/11 20:18	12/01/11 16:46	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 20:18	12/01/11 16:46	7440-41-7	
Cadmium	1.4 ug/L		0.080	1	11/21/11 20:18	12/01/11 16:46	7440-43-9	
Calcium	240000 ug/L		200	10	11/21/11 20:18	12/01/11 16:49	7440-70-2	
Chromium	0.85 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7440-47-3	
Copper	1.9 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7440-50-8	
Iron	501 ug/L		50.0	1	11/21/11 20:18	12/01/11 16:46	7439-89-6	
Lead	3.2 ug/L		0.10	1	11/21/11 20:18	12/01/11 16:46	7439-92-1	
Magnesium	21100 ug/L		5.0	1	11/21/11 20:18	12/01/11 16:46	7439-95-4	
Manganese	32.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7439-96-5	
Nickel	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7440-02-0	
Potassium	2090 ug/L		20.0	1	11/21/11 20:18	12/01/11 16:46	7440-09-7	
Selenium	1.3 ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 16:46	7440-22-4	
Sodium	10800 ug/L		50.0	1	11/21/11 20:18	12/01/11 16:46	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/01/11 16:46	7440-28-0	
Total Hardness by 2340B	685000 ug/L		710	10	11/21/11 20:18	12/01/11 16:49		
Vanadium	0.42 ug/L		0.10	1	11/21/11 20:18	12/01/11 16:46	7440-62-2	
Zinc	27.4 ug/L		5.0	1	11/21/11 20:18	12/01/11 16:46	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	80.4 ug/L		4.0	1	11/21/11 20:01	12/02/11 18:09	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7440-38-2	
Barium, Dissolved	16.1 ug/L		0.30	1	11/21/11 20:01	12/02/11 18:09	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/02/11 18:09	7440-41-7	
Cadmium, Dissolved	1.5 ug/L		0.080	1	11/21/11 20:01	12/02/11 18:09	7440-43-9	
Calcium, Dissolved	258000 ug/L		400	20	11/21/11 20:01	12/02/11 18:14	7440-70-2	
Chromium, Dissolved	0.54 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7440-47-3	
Copper, Dissolved	2.6 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7440-50-8	
Iron, Dissolved	146 ug/L		50.0	1	11/21/11 20:01	12/02/11 18:09	7439-89-6	
Lead, Dissolved	1.1 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:09	7439-92-1	
Magnesium, Dissolved	22000 ug/L		5.0	1	11/21/11 20:01	12/02/11 18:09	7439-95-4	
Manganese, Dissolved	25.5 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7439-96-5	
Nickel, Dissolved	2.4 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7440-02-0	
Potassium, Dissolved	2110 ug/L		20.0	1	11/21/11 20:01	12/02/11 18:09	7440-09-7	
Selenium, Dissolved	1.4 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:09	7440-22-4	
Sodium, Dissolved	11100 ug/L		50.0	1	11/21/11 20:01	12/02/11 18:09	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 18:09	7440-28-0	
Vanadium, Dissolved	0.12 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:09	7440-62-2	
Zinc, Dissolved	27.8 ug/L		5.0	1	11/21/11 20:01	12/02/11 18:09	7440-66-6	

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ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-3 SHALLOW	Lab ID: 60110318003	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:20	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:28	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1090	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	696	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.54	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	94.0	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	94.0	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	857	mg/L	5.0	1		11/17/11 15:03		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	13.0	mg/L	5.0	1		11/18/11 10:42		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	601	mg/L	50.0	50		11/23/11 15:27	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:53	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-3 DEEP	Lab ID: 60110318004	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	300 ug/L		4.0	1	11/21/11 20:18	12/01/11 17:21	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7440-36-0	
Arsenic	1.6 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7440-38-2	
Barium	23.7 ug/L		0.30	1	11/21/11 20:18	12/01/11 17:21	7440-39-3	
Beryllium	ND ug/L		0.20	1	11/21/11 20:18	12/02/11 14:38	7440-41-7	
Cadmium	0.13 ug/L		0.080	1	11/21/11 20:18	12/01/11 17:21	7440-43-9	
Calcium	233000 ug/L		400	20	11/21/11 20:18	12/02/11 14:42	7440-70-2	
Chromium	1.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7440-47-3	
Copper	2.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7440-50-8	
Iron	7450 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:21	7439-89-6	
Lead	4.8 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:21	7439-92-1	
Magnesium	24300 ug/L		50.0	10	11/21/11 20:18	12/01/11 17:24	7439-95-4	
Manganese	1620 ug/L		10.0	20	11/21/11 20:18	12/02/11 14:42	7439-96-5	
Nickel	0.55 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7440-02-0	
Potassium	2330 ug/L		20.0	1	11/21/11 20:18	12/01/11 17:21	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:21	7440-22-4	
Sodium	11500 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:21	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/01/11 17:21	7440-28-0	
Total Hardness by 2340B	682000 ug/L		1420	20	11/21/11 20:18	12/02/11 14:42		
Vanadium	0.84 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:21	7440-62-2	
Zinc	68.2 ug/L		5.0	1	11/21/11 20:18	12/01/11 17:21	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	7.7 ug/L		4.0	1	11/21/11 20:01	12/05/11 22:04	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7440-38-2	
Barium, Dissolved	17.9 ug/L		0.30	1	11/21/11 20:01	12/05/11 22:04	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/05/11 22:04	7440-41-7	
Cadmium, Dissolved	ND ug/L		0.080	1	11/21/11 20:01	12/05/11 22:04	7440-43-9	
Calcium, Dissolved	264000 ug/L		400	20	11/21/11 20:01	12/02/11 18:32	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7440-47-3	
Copper, Dissolved	1.9 ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7440-50-8	
Iron, Dissolved	777 ug/L		50.0	1	11/21/11 20:01	12/05/11 22:04	7439-89-6	
Lead, Dissolved	0.10 ug/L		0.10	1	11/21/11 20:01	12/05/11 22:04	7439-92-1	
Magnesium, Dissolved	34000 ug/L		50.0	10	11/21/11 20:01	12/05/11 22:08	7439-95-4	
Manganese, Dissolved	2190 ug/L		5.0	10	11/21/11 20:01	12/05/11 22:08	7439-96-5	
Nickel, Dissolved	1.9 ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7440-02-0	
Potassium, Dissolved	2270 ug/L		20.0	1	11/21/11 20:01	12/05/11 22:04	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/05/11 22:04	7440-22-4	
Sodium, Dissolved	11800 ug/L		50.0	1	11/21/11 20:01	12/05/11 22:04	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/05/11 22:04	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/05/11 22:04	7440-62-2	
Zinc, Dissolved	40.3 ug/L		5.0	1	11/21/11 20:01	12/05/11 22:04	7440-66-6	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-3 DEEP	Lab ID: 60110318004	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:26	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:34	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1180	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	756	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.59	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	98.0	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	98.0	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	913	mg/L	5.0	1		11/17/11 15:03		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	29.0	mg/L	5.0	1		11/18/11 10:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	640	mg/L	50.0	50		11/23/11 15:44	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:54	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-4 SHALLOW	Lab ID: 60110318005	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	4320 ug/L		4.0	1	11/21/11 20:18	12/01/11 17:28	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7440-36-0	
Arsenic	3.4 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7440-38-2	
Barium	184 ug/L		0.30	1	11/21/11 20:18	12/01/11 17:28	7440-39-3	
Beryllium	0.49 ug/L		0.20	1	11/21/11 20:18	12/02/11 14:45	7440-41-7	
Cadmium	1.2 ug/L		0.080	1	11/21/11 20:18	12/01/11 17:28	7440-43-9	
Calcium	242000 ug/L		400	20	11/21/11 20:18	12/02/11 14:48	7440-70-2	
Chromium	4.0 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7440-47-3	
Copper	28.9 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7440-50-8	
Iron	4860 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:28	7439-89-6	
Lead	26.9 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:28	7439-92-1	
Magnesium	32300 ug/L		50.0	10	11/21/11 20:18	12/01/11 17:31	7439-95-4	
Manganese	5310 ug/L		10.0	20	11/21/11 20:18	12/02/11 14:48	7439-96-5	
Nickel	12.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7440-02-0	
Potassium	8990 ug/L		20.0	1	11/21/11 20:18	12/01/11 17:28	7440-09-7	
Selenium	5.2 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:28	7440-22-4	
Sodium	28800 ug/L		500	10	11/21/11 20:18	12/01/11 17:31	7440-23-5	
Thallium	0.17 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:28	7440-28-0	
Total Hardness by 2340B	738000 ug/L		1420	20	11/21/11 20:18	12/02/11 14:48		
Vanadium	5.5 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:28	7440-62-2	
Zinc	146 ug/L		5.0	1	11/21/11 20:18	12/01/11 17:28	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	43.0 ug/L		4.0	1	11/21/11 20:01	12/02/11 18:37	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7440-36-0	
Arsenic, Dissolved	0.52 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7440-38-2	
Barium, Dissolved	135 ug/L		0.30	1	11/21/11 20:01	12/02/11 18:37	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/02/11 18:37	7440-41-7	
Cadmium, Dissolved	0.32 ug/L		0.080	1	11/21/11 20:01	12/02/11 18:37	7440-43-9	
Calcium, Dissolved	276000 ug/L		400	20	11/21/11 20:01	12/05/11 22:18	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7440-47-3	
Copper, Dissolved	1.6 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7440-50-8	
Iron, Dissolved	235 ug/L		50.0	1	11/21/11 20:01	12/02/11 18:37	7439-89-6	
Lead, Dissolved	0.69 ug/L		0.20	2	11/21/11 20:01	12/05/11 22:13	7439-92-1	
Magnesium, Dissolved	29600 ug/L		10.0	2	11/21/11 20:01	12/05/11 22:13	7439-95-4	
Manganese, Dissolved	5090 ug/L		10.0	20	11/21/11 20:01	12/05/11 22:18	7439-96-5	
Nickel, Dissolved	9.8 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7440-02-0	
Potassium, Dissolved	8660 ug/L		20.0	1	11/21/11 20:01	12/02/11 18:37	7440-09-7	
Selenium, Dissolved	5.5 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:37	7440-22-4	
Sodium, Dissolved	26500 ug/L		100	2	11/21/11 20:01	12/05/11 22:13	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 18:37	7440-28-0	
Vanadium, Dissolved	0.18 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:37	7440-62-2	
Zinc, Dissolved	72.4 ug/L		5.0	1	11/21/11 20:01	12/02/11 18:37	7440-66-6	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-4 SHALLOW	Lab ID: 60110318005	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:28	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:36	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1260	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	804	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.62	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	354	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	354	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	934	mg/L	5.0	1		11/17/11 15:03		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	584	mg/L	5.0	1		11/18/11 10:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	430	mg/L	50.0	50		11/23/11 16:01	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:54	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-4 DEEP	Lab ID: 60110318006	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	1130 ug/L		4.0	1	11/21/11 20:18	12/01/11 17:34	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7440-36-0	
Arsenic	2.4 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7440-38-2	
Barium	54.4 ug/L		0.30	1	11/21/11 20:18	12/01/11 17:34	7440-39-3	
Beryllium	0.20 ug/L		0.20	1	11/21/11 20:18	12/02/11 14:52	7440-41-7	
Cadmium	2.2 ug/L		0.080	1	11/21/11 20:18	12/01/11 17:34	7440-43-9	
Calcium	251000 ug/L		400	20	11/21/11 20:18	12/02/11 14:55	7440-70-2	
Chromium	1.8 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7440-47-3	
Copper	12.0 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7440-50-8	
Iron	1990 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:34	7439-89-6	
Lead	11.1 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:34	7439-92-1	
Magnesium	30400 ug/L		50.0	10	11/21/11 20:18	12/01/11 17:38	7439-95-4	
Manganese	330 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7439-96-5	
Nickel	3.3 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7440-02-0	
Potassium	3110 ug/L		20.0	1	11/21/11 20:18	12/01/11 17:34	7440-09-7	
Selenium	17.9 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:34	7440-22-4	
Sodium	6900 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:34	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/01/11 17:34	7440-28-0	
Total Hardness by 2340B	752000 ug/L		1420	20	11/21/11 20:18	12/02/11 14:55		
Vanadium	2.1 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:34	7440-62-2	
Zinc	260 ug/L		5.0	1	11/21/11 20:18	12/01/11 17:34	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	47.4 ug/L		4.0	1	11/21/11 20:01	12/02/11 19:23	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7440-38-2	
Barium, Dissolved	42.5 ug/L		0.30	1	11/21/11 20:01	12/02/11 19:23	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/02/11 19:23	7440-41-7	
Cadmium, Dissolved	2.0 ug/L		0.080	1	11/21/11 20:01	12/02/11 19:23	7440-43-9	
Calcium, Dissolved	273000 ug/L		400	20	11/21/11 20:01	12/02/11 19:28	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7440-47-3	
Copper, Dissolved	5.1 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	11/21/11 20:01	12/02/11 19:23	7439-89-6	
Lead, Dissolved	0.38 ug/L		0.20	2	11/21/11 20:01	12/05/11 22:22	7439-92-1	
Magnesium, Dissolved	28400 ug/L		10.0	2	11/21/11 20:01	12/05/11 22:22	7439-95-4	
Manganese, Dissolved	213 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7439-96-5	
Nickel, Dissolved	3.6 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7440-02-0	
Potassium, Dissolved	2840 ug/L		20.0	1	11/21/11 20:01	12/02/11 19:23	7440-09-7	
Selenium, Dissolved	19.4 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:23	7440-22-4	
Sodium, Dissolved	6710 ug/L		100	2	11/21/11 20:01	12/05/11 22:22	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 19:23	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 19:23	7440-62-2	
Zinc, Dissolved	244 ug/L		5.0	1	11/21/11 20:01	12/02/11 19:23	7440-66-6	

Date: 12/07/2011 09:43 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-4 DEEP	Lab ID: 60110318006	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:30	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:38	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1160	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	745	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.58	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	338	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	338	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	871	mg/L	5.0	1		11/17/11 15:03		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	47.0	mg/L	5.0	1		11/18/11 10:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	404	mg/L	50.0	50		11/23/11 16:17	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:57	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-5 SHALLOW	Lab ID: 60110318007	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	6530 ug/L		4.0	1	11/21/11 20:18	12/01/11 17:41	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7440-36-0	
Arsenic	46.3 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7440-38-2	
Barium	168 ug/L		0.30	1	11/21/11 20:18	12/01/11 17:41	7440-39-3	
Beryllium	1.7 ug/L		0.20	1	11/21/11 20:18	12/02/11 14:59	7440-41-7	
Cadmium	13.7 ug/L		0.080	1	11/21/11 20:18	12/01/11 17:41	7440-43-9	
Calcium	475000 ug/L		1000	50	11/21/11 20:18	12/02/11 15:06	7440-70-2	
Chromium	5.3 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7440-47-3	
Copper	27.3 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7440-50-8	
Iron	117000 ug/L		1000	20	11/21/11 20:18	12/02/11 15:02	7439-89-6	
Lead	156 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:41	7439-92-1	
Magnesium	30900 ug/L		100	20	11/21/11 20:18	12/02/11 15:02	7439-95-4	
Manganese	17400 ug/L		25.0	50	11/21/11 20:18	12/02/11 15:06	7439-96-5	
Nickel	71.0 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7440-02-0	
Potassium	9760 ug/L		20.0	1	11/21/11 20:18	12/01/11 17:41	7440-09-7	
Selenium	1.9 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:41	7440-22-4	
Sodium	11100 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:41	7440-23-5	
Thallium	0.47 ug/L		0.10	1	11/21/11 20:18	12/02/11 14:59	7440-28-0	
Total Hardness by 2340B	1310000 ug/L		3550	50	11/21/11 20:18	12/02/11 15:06		
Vanadium	8.1 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:41	7440-62-2	
Zinc	9820 ug/L		250	50	11/21/11 20:18	12/02/11 15:06	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	1310 ug/L		4.0	1	11/21/11 20:01	12/02/11 18:46	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7440-36-0	
Arsenic, Dissolved	41.9 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7440-38-2	
Barium, Dissolved	45.4 ug/L		0.30	1	11/21/11 20:01	12/02/11 18:46	7440-39-3	
Beryllium, Dissolved	1.1 ug/L		0.20	1	11/21/11 20:01	12/02/11 18:46	7440-41-7	
Cadmium, Dissolved	2.5 ug/L		0.080	1	11/21/11 20:01	12/02/11 18:46	7440-43-9	
Calcium, Dissolved	534000 ug/L		1000	50	11/21/11 20:01	12/02/11 18:55	7440-70-2	
Chromium, Dissolved	1.1 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7440-47-3	
Copper, Dissolved	2.7 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7440-50-8	
Iron, Dissolved	112000 ug/L		500	10	11/21/11 20:01	12/02/11 18:51	7439-89-6	
Lead, Dissolved	13.8 ug/L		0.50	5	11/21/11 20:01	12/05/11 22:27	7439-92-1	
Magnesium, Dissolved	35600 ug/L		25.0	5	11/21/11 20:01	12/05/11 22:27	7439-95-4	
Manganese, Dissolved	15600 ug/L		25.0	50	11/21/11 20:01	12/02/11 18:55	7439-96-5	
Nickel, Dissolved	68.4 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7440-02-0	
Potassium, Dissolved	8010 ug/L		20.0	1	11/21/11 20:01	12/02/11 18:46	7440-09-7	
Selenium, Dissolved	1.5 ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 18:46	7440-22-4	
Sodium, Dissolved	12100 ug/L		250	5	11/21/11 20:01	12/05/11 22:27	7440-23-5	
Thallium, Dissolved	0.28 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:46	7440-28-0	
Vanadium, Dissolved	0.66 ug/L		0.10	1	11/21/11 20:01	12/02/11 18:46	7440-62-2	
Zinc, Dissolved	8920 ug/L		250	50	11/21/11 20:01	12/02/11 18:55	7440-66-6	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-5 SHALLOW	Lab ID: 60110318007	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:32	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:40	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	2100	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	1340	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	1.1	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	ND	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	2060	mg/L	5.0	1		11/17/11 15:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	656	mg/L	5.0	1		11/18/11 10:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1580	mg/L	100	100		11/23/11 17:07	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	0.0065	mg/L	0.0050	1		11/21/11 13:57	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-5 DEEP	Lab ID: 60110318008	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	181 ug/L		4.0	1	11/21/11 20:18	12/01/11 17:48	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7440-36-0	
Arsenic	10 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7440-38-2	
Barium	41.1 ug/L		0.30	1	11/21/11 20:18	12/01/11 17:48	7440-39-3	
Beryllium	0.41 ug/L		0.20	1	11/21/11 20:18	12/02/11 15:34	7440-41-7	
Cadmium	0.37 ug/L		0.080	1	11/21/11 20:18	12/01/11 17:48	7440-43-9	
Calcium	217000 ug/L		400	20	11/21/11 20:18	12/02/11 15:38	7440-70-2	
Chromium	0.60 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7440-47-3	
Copper	6.2 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7440-50-8	
Iron	26800 ug/L		1000	20	11/21/11 20:18	12/02/11 15:38	7439-89-6	
Lead	51.7 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:48	7439-92-1	
Magnesium	29700 ug/L		100	20	11/21/11 20:18	12/02/11 15:38	7439-95-4	
Manganese	6080 ug/L		10.0	20	11/21/11 20:18	12/02/11 15:38	7439-96-5	
Nickel	13.2 ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7440-02-0	
Potassium	5750 ug/L		20.0	1	11/21/11 20:18	12/01/11 17:48	7440-09-7	
Selenium	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/01/11 17:48	7440-22-4	
Sodium	13800 ug/L		50.0	1	11/21/11 20:18	12/01/11 17:48	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/01/11 17:48	7440-28-0	
Total Hardness by 2340B	665000 ug/L		1420	20	11/21/11 20:18	12/02/11 15:38		
Vanadium	0.21 ug/L		0.10	1	11/21/11 20:18	12/01/11 17:48	7440-62-2	
Zinc	3290 ug/L		100	20	11/21/11 20:18	12/02/11 15:38	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	78.7 ug/L		4.0	1	11/21/11 20:01	12/02/11 19:32	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7440-36-0	
Arsenic, Dissolved	8.4 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7440-38-2	
Barium, Dissolved	41.5 ug/L		0.30	1	11/21/11 20:01	12/02/11 19:32	7440-39-3	
Beryllium, Dissolved	0.33 ug/L		0.20	1	11/21/11 20:01	12/02/11 19:32	7440-41-7	
Cadmium, Dissolved	ND ug/L		0.080	1	11/21/11 20:01	12/02/11 19:32	7440-43-9	
Calcium, Dissolved	237000 ug/L		400	20	11/21/11 20:01	12/02/11 19:37	7440-70-2	
Chromium, Dissolved	0.76 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7440-47-3	
Copper, Dissolved	1.6 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7440-50-8	
Iron, Dissolved	23900 ug/L		100	2	11/21/11 20:01	12/05/11 22:31	7439-89-6	
Lead, Dissolved	1.0 ug/L		0.20	2	11/21/11 20:01	12/05/11 22:31	7439-92-1	
Magnesium, Dissolved	28200 ug/L		10.0	2	11/21/11 20:01	12/05/11 22:31	7439-95-4	
Manganese, Dissolved	5820 ug/L		10.0	20	11/21/11 20:01	12/02/11 19:37	7439-96-5	
Nickel, Dissolved	14.3 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7440-02-0	
Potassium, Dissolved	5640 ug/L		20.0	1	11/21/11 20:01	12/02/11 19:32	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:32	7440-22-4	
Sodium, Dissolved	12200 ug/L		100	2	11/21/11 20:01	12/05/11 22:31	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 19:32	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 19:32	7440-62-2	
Zinc, Dissolved	3130 ug/L		100	20	11/21/11 20:01	12/02/11 19:37	7440-66-6	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-5 DEEP	Lab ID: 60110318008	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:34	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:47	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1130	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	721	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.56	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	50.0	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	50.0	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	950	mg/L	5.0	1		11/17/11 15:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	33.0	mg/L	5.0	1		11/18/11 10:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	701	mg/L	50.0	50		11/23/11 17:23	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:58	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-6 SHALLOW	Lab ID: 60110318009	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	11900 ug/L		4.0	1	11/21/11 20:18	12/02/11 15:41	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/02/11 15:41	7440-36-0	
Arsenic	55.0 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:06	7440-38-2	
Barium	145 ug/L		0.30	1	11/21/11 20:18	12/02/11 15:41	7440-39-3	
Beryllium	2.0 ug/L		0.20	1	11/21/11 20:18	12/02/11 15:41	7440-41-7	
Cadmium	1.8 ug/L		0.080	1	11/21/11 20:18	12/02/11 15:41	7440-43-9	
Calcium	405000 ug/L		400	20	11/21/11 20:18	12/02/11 15:45	7440-70-2	
Chromium	7.4 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:06	7440-47-3	
Copper	27.6 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:06	7440-50-8	
Iron	85000 ug/L		1000	20	11/21/11 20:18	12/02/11 15:45	7439-89-6	
Lead	49.2 ug/L		0.10	1	11/21/11 20:18	12/02/11 15:41	7439-92-1	
Magnesium	66000 ug/L		100	20	11/21/11 20:18	12/02/11 15:45	7439-95-4	
Manganese	8060 ug/L		10.0	20	11/21/11 20:18	12/02/11 15:45	7439-96-5	
Nickel	9.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:06	7440-02-0	
Potassium	14600 ug/L		20.0	1	11/21/11 20:18	12/02/11 15:41	7440-09-7	
Selenium	1.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:06	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/02/11 15:41	7440-22-4	
Sodium	4530 ug/L		50.0	1	11/21/11 20:18	12/02/11 15:41	7440-23-5	
Thallium	0.30 ug/L		0.10	1	11/21/11 20:18	12/02/11 15:41	7440-28-0	
Total Hardness by 2340B	1280000 ug/L		1420	20	11/21/11 20:18	12/02/11 15:45		
Vanadium	12.5 ug/L		0.10	1	11/21/11 20:18	12/02/11 15:41	7440-62-2	
Zinc	1200 ug/L		5.0	1	11/21/11 20:18	12/01/11 18:06	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	2770 ug/L		4.0	1	11/21/11 20:01	12/02/11 19:00	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7440-36-0	
Arsenic, Dissolved	45.1 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7440-38-2	
Barium, Dissolved	42.8 ug/L		0.30	1	11/21/11 20:01	12/02/11 19:00	7440-39-3	
Beryllium, Dissolved	1.3 ug/L		0.20	1	11/21/11 20:01	12/02/11 19:00	7440-41-7	
Cadmium, Dissolved	0.20 ug/L		0.080	1	11/21/11 20:01	12/02/11 19:00	7440-43-9	
Calcium, Dissolved	479000 ug/L		1000	50	11/21/11 20:01	12/02/11 19:09	7440-70-2	
Chromium, Dissolved	1.1 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7440-47-3	
Copper, Dissolved	4.0 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7440-50-8	
Iron, Dissolved	70000 ug/L		250	5	11/21/11 20:01	12/05/11 22:59	7439-89-6	
Lead, Dissolved	4.8 ug/L		0.50	5	11/21/11 20:01	12/05/11 22:59	7439-92-1	
Magnesium, Dissolved	63800 ug/L		25.0	5	11/21/11 20:01	12/05/11 22:59	7439-95-4	
Manganese, Dissolved	3980 ug/L		5.0	10	11/21/11 20:01	12/02/11 19:05	7439-96-5	
Nickel, Dissolved	6.6 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7440-02-0	
Potassium, Dissolved	14000 ug/L		20.0	1	11/21/11 20:01	12/02/11 19:00	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:00	7440-22-4	
Sodium, Dissolved	3870 ug/L		250	5	11/21/11 20:01	12/05/11 22:59	7440-23-5	
Thallium, Dissolved	0.15 ug/L		0.10	1	11/21/11 20:01	12/02/11 19:00	7440-28-0	
Vanadium, Dissolved	1.2 ug/L		0.10	1	11/21/11 20:01	12/02/11 19:00	7440-62-2	
Zinc, Dissolved	1030 ug/L		25.0	5	11/21/11 20:01	12/05/11 22:59	7440-66-6	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-6 SHALLOW	Lab ID: 60110318009	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:41	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:49	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1810	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	1160	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.92	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	76.0	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	76.0	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1780	mg/L	5.0	1		11/17/11 15:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	613	mg/L	5.0	1		11/18/11 10:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1310	mg/L	100	100		11/23/11 17:57	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 13:58	57-12-5	

ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-6 DEEP	Lab ID: 60110318010	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	110 ug/L		4.0	1	11/21/11 20:18	12/02/11 15:51	7429-90-5	
Antimony	ND ug/L		0.50	1	11/21/11 20:18	12/02/11 15:51	7440-36-0	
Arsenic	1.4 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:13	7440-38-2	
Barium	39.2 ug/L		0.30	1	11/21/11 20:18	12/02/11 15:51	7440-39-3	
Beryllium	0.23 ug/L		0.20	1	11/21/11 20:18	12/02/11 15:51	7440-41-7	
Cadmium	0.31 ug/L		0.080	1	11/21/11 20:18	12/02/11 15:51	7440-43-9	
Calcium	140000 ug/L		200	10	11/21/11 20:18	12/02/11 15:55	7440-70-2	
Chromium	0.62 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:13	7440-47-3	
Copper	3.1 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:13	7440-50-8	
Iron	3310 ug/L		50.0	1	11/21/11 20:18	12/02/11 15:51	7439-89-6	
Lead	4.3 ug/L		0.10	1	11/21/11 20:18	12/02/11 15:51	7439-92-1	
Magnesium	18800 ug/L		5.0	1	11/21/11 20:18	12/02/11 15:51	7439-95-4	
Manganese	4260 ug/L		5.0	10	11/21/11 20:18	12/02/11 15:55	7439-96-5	
Nickel	3.5 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:13	7440-02-0	
Potassium	5150 ug/L		20.0	1	11/21/11 20:18	12/02/11 15:51	7440-09-7	
Selenium	0.61 ug/L		0.50	1	11/21/11 20:18	12/01/11 18:13	7782-49-2	
Silver	ND ug/L		0.50	1	11/21/11 20:18	12/02/11 15:51	7440-22-4	
Sodium	11500 ug/L		50.0	1	11/21/11 20:18	12/02/11 15:51	7440-23-5	
Thallium	ND ug/L		0.10	1	11/21/11 20:18	12/02/11 15:51	7440-28-0	
Total Hardness by 2340B	427000 ug/L		710	10	11/21/11 20:18	12/02/11 15:55		
Vanadium	0.13 ug/L		0.10	1	11/21/11 20:18	12/02/11 15:51	7440-62-2	
Zinc	630 ug/L		50.0	10	11/21/11 20:18	12/02/11 15:55	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	59.8 ug/L		4.0	1	11/21/11 20:01	12/02/11 19:42	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7440-36-0	
Arsenic, Dissolved	1.2 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7440-38-2	
Barium, Dissolved	40.4 ug/L		0.30	1	11/21/11 20:01	12/02/11 19:42	7440-39-3	
Beryllium, Dissolved	ND ug/L		0.20	1	11/21/11 20:01	12/02/11 19:42	7440-41-7	
Cadmium, Dissolved	0.32 ug/L		0.080	1	11/21/11 20:01	12/02/11 19:42	7440-43-9	
Calcium, Dissolved	159000 ug/L		200	10	11/21/11 20:01	12/02/11 19:46	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7440-47-3	
Copper, Dissolved	3.6 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7440-50-8	
Iron, Dissolved	2950 ug/L		50.0	1	11/21/11 20:01	12/02/11 19:42	7439-89-6	
Lead, Dissolved	0.60 ug/L		0.20	2	11/21/11 20:01	12/05/11 23:04	7439-92-1	
Magnesium, Dissolved	20200 ug/L		5.0	1	11/21/11 20:01	12/02/11 19:42	7439-95-4	
Manganese, Dissolved	4210 ug/L		5.0	10	11/21/11 20:01	12/02/11 19:46	7439-96-5	
Nickel, Dissolved	5.5 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7440-02-0	
Potassium, Dissolved	5330 ug/L		20.0	1	11/21/11 20:01	12/02/11 19:42	7440-09-7	
Selenium, Dissolved	0.68 ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	11/21/11 20:01	12/02/11 19:42	7440-22-4	
Sodium, Dissolved	10300 ug/L		100	2	11/21/11 20:01	12/05/11 23:04	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 19:42	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	11/21/11 20:01	12/02/11 19:42	7440-62-2	
Zinc, Dissolved	613 ug/L		10.0	2	11/21/11 20:01	12/05/11 23:04	7440-66-6	

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ANALYTICAL RESULTS

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

Sample: MW-6 DEEP	Lab ID: 60110318010	Collected: 11/11/11 08:00	Received: 11/15/11 09:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury	Analytical Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	11/28/11 08:15	11/30/11 09:43	7439-97-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	11/28/11 06:14	11/30/11 11:51	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	771	umhos/cm	10.0	1		11/22/11 12:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	493	mg/L	6.0	1		11/23/11 10:30		
Salinity (as seawater)	0.38	PSU	0.010	1		11/23/11 10:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	108	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		11/23/11 13:00		
Alkalinity, Total as CaCO3	108	mg/L	20.0	1		11/23/11 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	579	mg/L	5.0	1		11/18/11 15:36		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	7.0	mg/L	5.0	1		11/18/11 10:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	322	mg/L	20.0	20		11/23/11 18:13	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		11/21/11 14:01	57-12-5	

Appendix D
Laboratory QC Results

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	ICPM/29881	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012		

METHOD BLANK: 1101967 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007,
60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014,
60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Aluminum	ug/L	ND	4.0	12/02/11 02:20	
Antimony	ug/L	ND	0.50	12/02/11 02:20	
Arsenic	ug/L	ND	0.50	12/02/11 02:20	
Barium	ug/L	ND	0.30	12/02/11 02:20	
Beryllium	ug/L	ND	0.20	12/02/11 02:20	
Cadmium	ug/L	ND	0.080	12/02/11 02:20	
Calcium	ug/L	ND	20.0	12/02/11 02:20	
Chromium	ug/L	ND	0.50	12/02/11 02:20	
Copper	ug/L	ND	0.50	12/02/11 02:20	
Iron	ug/L	ND	50.0	12/02/11 02:20	
Lead	ug/L	ND	0.10	12/02/11 02:20	CH
Magnesium	ug/L	ND	5.0	12/02/11 02:20	
Manganese	ug/L	ND	0.50	12/02/11 02:20	
Nickel	ug/L	ND	0.50	12/02/11 02:20	
Potassium	ug/L	ND	20.0	12/02/11 02:20	
Selenium	ug/L	ND	0.50	12/02/11 02:20	
Silver	ug/L	ND	0.50	12/02/11 02:20	
Sodium	ug/L	ND	50.0	12/02/11 02:20	
Thallium	ug/L	ND	0.10	12/02/11 02:20	
Total Hardness by 2340B	ug/L	ND	71.0	12/02/11 02:20	
Vanadium	ug/L	ND	0.10	12/02/11 02:20	
Zinc	ug/L	ND	5.0	12/02/11 02:20	

LABORATORY CONTROL SAMPLE: 1101968

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Aluminum	ug/L	80	73.0	91	85-115	
Antimony	ug/L	80	77.5	97	85-115	
Arsenic	ug/L	80	77.7	97	85-115	
Barium	ug/L	80	74.5	93	85-115	
Beryllium	ug/L	80	76.9	96	85-115	
Cadmium	ug/L	80	75.7	95	85-115	
Calcium	ug/L	1000	902	90	85-115	
Chromium	ug/L	80	74.9	94	85-115	
Copper	ug/L	80	72.8	91	85-115	
Iron	ug/L	1000	944	94	85-115	
Lead	ug/L	80	82.3	103	85-115	
Magnesium	ug/L	1000	971	97	85-115	
Manganese	ug/L	80	77.2	97	85-115	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

LABORATORY CONTROL SAMPLE: 1101968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel	ug/L	80	73.3	92	85-115	
Potassium	ug/L	1000	935	94	85-115	
Selenium	ug/L	80	77.8	97	85-115	
Silver	ug/L	80	76.0	95	85-115	
Sodium	ug/L	1000	990	99	85-115	
Thallium	ug/L	80	77.2	96	85-115	
Total Hardness by 2340B	ug/L		6250			
Vanadium	ug/L	80	76.2	95	85-115	
Zinc	ug/L	80	78.3	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1101969 1101970

Parameter	Units	MS Spike		MSD Spike		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60110316001	Result	Conc.	Conc.								
Aluminum	ug/L	39.9	80	80	133	128	116	109	70-130	4	20		
Antimony	ug/L	ND	80	80	79.4	78.6	99	98	70-130	.9	20		
Arsenic	ug/L	ND	80	80	80.2	79.1	100	99	70-130	1	20		
Barium	ug/L	69.0	80	80	145	142	95	91	70-130	2	20		
Beryllium	ug/L	ND	80	80	86.3	79.3	108	99	70-130	8	20		
Cadmium	ug/L	ND	80	80	78.3	79.0	98	99	70-130	.9	20		
Calcium	ug/L	47500	1000	1000	49000	47700	152	20	70-130	3	20	M6	
Chromium	ug/L	ND	80	80	76.4	75.8	95	94	70-130	.8	20		
Copper	ug/L	ND	80	80	74.0	75.2	92	93	70-130	2	20		
Iron	ug/L	64.0	1000	1000	1040	1020	97	95	70-130	2	20		
Lead	ug/L	ND	80	80	80.3	81.4	100	102	70-130	1	20		
Magnesium	ug/L	6860	1000	1000	8040	7890	118	104	70-130	2	20		
Manganese	ug/L	27.3	80	80	106	106	99	98	70-130	.8	20		
Nickel	ug/L	ND	80	80	76.3	79.6	95	99	70-130	4	20		
Potassium	ug/L	631	1000	1000	1710	1640	108	101	70-130	4	20		
Selenium	ug/L	ND	80	80	82.7	84.3	103	105	70-130	2	20		
Silver	ug/L	ND	80	80	71.0	72.2	89	90	70-130	2	20		
Sodium	ug/L	2800	1000	1000	3980	3800	118	100	70-130	5	20		
Thallium	ug/L	ND	80	80	79.3	78.7	99	98	70-130	.8	20		
Total Hardness by 2340B	ug/L	147000			155000	152000				3	20		
Vanadium	ug/L	0.19	80	80	79.3	77.4	99	97	70-130	2	20		
Zinc	ug/L	ND	80	80	83.4	82.4	101	100	70-130	1	20		

MATRIX SPIKE SAMPLE: 1101971

Parameter	Units	60110316011	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L		ND	80	76.7	91	70-130
Antimony	ug/L		ND	80	74.4	93	70-130
Arsenic	ug/L		ND	80	75.6	94	70-130
Barium	ug/L		ND	80	72.7	91	70-130
Beryllium	ug/L		ND	80	83.2	104	70-130

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

MATRIX SPIKE SAMPLE: 1101971

Parameter	Units	60110316011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	ND	80	73.3	92	70-130	
Calcium	ug/L	ND	1000	869	86	70-130	
Chromium	ug/L	ND	80	74.3	92	70-130	
Copper	ug/L	ND	80	71.7	90	70-130	
Iron	ug/L	ND	1000	935	93	70-130	
Lead	ug/L	ND	80	77.2	96	70-130	
Magnesium	ug/L	ND	1000	977	97	70-130	
Manganese	ug/L	ND	80	75.8	95	70-130	
Nickel	ug/L	ND	80	73.6	92	70-130	
Potassium	ug/L	ND	1000	913	91	70-130	
Selenium	ug/L	ND	80	78.0	97	70-130	
Silver	ug/L	ND	80	73.0	91	70-130	
Sodium	ug/L	ND	1000	978	97	70-130	
Thallium	ug/L	ND	80	74.3	93	70-130	
Total Hardness by 2340B	ug/L	ND		6190			
Vanadium	ug/L	ND	80	74.1	93	70-130	
Zinc	ug/L	ND	80	77.8	94	70-130	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	ICPM/29876	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Dissolved
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010		

METHOD BLANK:	1101934	Matrix:	Water
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010		

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Aluminum, Dissolved	ug/L	ND	4.0	12/01/11 23:38	
Antimony, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Arsenic, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Barium, Dissolved	ug/L	ND	0.30	12/01/11 23:38	
Beryllium, Dissolved	ug/L	ND	0.20	12/01/11 23:38	
Cadmium, Dissolved	ug/L	ND	0.080	12/01/11 23:38	
Calcium, Dissolved	ug/L	ND	20.0	12/01/11 23:38	
Chromium, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Copper, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Iron, Dissolved	ug/L	ND	50.0	12/01/11 23:38	
Lead, Dissolved	ug/L	ND	0.10	12/01/11 23:38	CH
Magnesium, Dissolved	ug/L	ND	5.0	12/01/11 23:38	
Manganese, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Nickel, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Potassium, Dissolved	ug/L	ND	20.0	12/01/11 23:38	
Selenium, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Silver, Dissolved	ug/L	ND	0.50	12/01/11 23:38	
Sodium, Dissolved	ug/L	ND	50.0	12/01/11 23:38	
Thallium, Dissolved	ug/L	ND	0.10	12/01/11 23:38	
Vanadium, Dissolved	ug/L	ND	0.10	12/01/11 23:38	
Zinc, Dissolved	ug/L	ND	5.0	12/01/11 23:38	

LABORATORY CONTROL SAMPLE: 1101935

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Aluminum, Dissolved	ug/L	80	73.2	91	85-115	
Antimony, Dissolved	ug/L	80	77.2	96	85-115	
Arsenic, Dissolved	ug/L	80	78.1	98	85-115	
Barium, Dissolved	ug/L	80	75.5	94	85-115	
Beryllium, Dissolved	ug/L	80	85.5	107	85-115	
Cadmium, Dissolved	ug/L	80	77.0	96	85-115	
Calcium, Dissolved	ug/L	1000	950	95	85-115	
Chromium, Dissolved	ug/L	80	75.0	94	85-115	
Copper, Dissolved	ug/L	80	74.8	93	85-115	
Iron, Dissolved	ug/L	1000	949	95	85-115	
Lead, Dissolved	ug/L	80	81.6	102	85-115	
Magnesium, Dissolved	ug/L	1000	978	98	85-115	
Manganese, Dissolved	ug/L	80	76.4	95	85-115	
Nickel, Dissolved	ug/L	80	76.7	96	85-115	
Potassium, Dissolved	ug/L	1000	937	94	85-115	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

LABORATORY CONTROL SAMPLE: 1101935

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Selenium, Dissolved	ug/L	80	79.3	99	85-115	
Silver, Dissolved	ug/L	80	76.6	96	85-115	
Sodium, Dissolved	ug/L	1000	997	100	85-115	
Thallium, Dissolved	ug/L	80	77.6	97	85-115	
Vanadium, Dissolved	ug/L	80	77.1	96	85-115	
Zinc, Dissolved	ug/L	80	77.5	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1101936 1101937

Parameter	Units	10176005001		MS Spike Conc.		MSD Spike Conc.		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Result	Conc.	Result	Conc.								
Aluminum, Dissolved	ug/L	3.0J	80	80	91.4	89.9	111	109	70-130	2	20				
Antimony, Dissolved	ug/L	0.12J	80	80	83.3	81.7	104	102	70-130	2	20				
Arsenic, Dissolved	ug/L	0.0037 mg/L	80	80	85.2	85.7	102	102	70-130	.5	20				
Barium, Dissolved	ug/L	27.6	80	80	112	109	106	102	70-130	3	20				
Beryllium, Dissolved	ug/L	ND	80	80	73.3	77.1	92	96	70-130	5	20				
Cadmium, Dissolved	ug/L	0.0020 mg/L	80	80	82.6	82.3	101	100	70-130	.3	20				
Calcium, Dissolved	ug/L	314 mg/L	1000	1000	318000	311000	340	-280	70-130	2	20 M6				
Chromium, Dissolved	ug/L	0.63	80	80	82.8	83.3	103	103	70-130	.6	20				
Copper, Dissolved	ug/L	0.0035 mg/L	80	80	81.3	80.6	97	96	70-130	.9	20				
Iron, Dissolved	ug/L	0.0068J mg/L	1000	1000	1080	1070	107	106	70-130	.7	20				
Lead, Dissolved	ug/L	ND	80	80	83.6	82.6	105	103	70-130	1	20				
Magnesium, Dissolved	ug/L	76.1 mg/L	1000	1000	83000	81500	687	535	70-130	2	20 M6				
Manganese, Dissolved	ug/L	39.7 mg/L	80	80	36400	36400	-4120	-4200	70-130	.2	20 E,M6				
Nickel, Dissolved	ug/L	7.6	80	80	86.7	83.0	99	94	70-130	4	20				
Potassium, Dissolved	ug/L	8.6 mg/L	1000	1000	9640	9370	105	77	70-130	3	20				
Selenium, Dissolved	ug/L	ND	80	80	80.6	79.8	101	100	70-130	1	20				
Silver, Dissolved	ug/L	ND	80	80	74.2	75.1	93	94	70-130	1	20				
Sodium, Dissolved	ug/L	37.8 mg/L	1000	1000	42100	41200	438	347	70-130	2	20 M6				
Thallium, Dissolved	ug/L	0.12	80	80	81.8	82.2	102	103	70-130	.5	20				
Vanadium, Dissolved	ug/L	0.60	80	80	81.6	81.6	101	101	70-130	.06	20				
Zinc, Dissolved	ug/L	0.0034J mg/L	80	80	83.2	82.6	100	99	70-130	.7	20				

MATRIX SPIKE SAMPLE: 1101938

Parameter	Units	60110316001		Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
		Result	Conc.					
Aluminum, Dissolved	ug/L	12.8	80		89.8	96	70-130	
Antimony, Dissolved	ug/L	ND	80		81.2	101	70-130	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

MATRIX SPIKE SAMPLE: 1101938

Parameter	Units	60110316001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	ND	80	81.9	102	70-130	
Barium, Dissolved	ug/L	67.1	80	147	100	70-130	
Beryllium, Dissolved	ug/L	ND	80	81.9	102	70-130	
Cadmium, Dissolved	ug/L	ND	80	79.8	100	70-130	
Calcium, Dissolved	ug/L	38800	1000	46500	770	70-130	M1
Chromium, Dissolved	ug/L	ND	80	78.2	97	70-130	
Copper, Dissolved	ug/L	1.9	80	81.2	99	70-130	
Iron, Dissolved	ug/L	ND	1000	1020	100	70-130	
Lead, Dissolved	ug/L	ND	80	77.1	96	70-130	
Magnesium, Dissolved	ug/L	6620	1000	7770	114	70-130	
Manganese, Dissolved	ug/L	25.0	80	105	100	70-130	
Nickel, Dissolved	ug/L	2.1	80	82.1	100	70-130	
Potassium, Dissolved	ug/L	654	1000	1660	101	70-130	
Selenium, Dissolved	ug/L	ND	80	84.2	105	70-130	
Silver, Dissolved	ug/L	ND	80	79.1	99	70-130	
Sodium, Dissolved	ug/L	2780	1000	3900	112	70-130	
Thallium, Dissolved	ug/L	ND	80	80.3	100	70-130	
Vanadium, Dissolved	ug/L	0.10	80	80.5	100	70-130	
Zinc, Dissolved	ug/L	6.0	80	86.7	101	70-130	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	ICPM/29877	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Dissolved
Associated Lab Samples:	60110316011, 60110316012, 60110316013		

METHOD BLANK: 1101940 Matrix: Water

Associated Lab Samples: 60110316011, 60110316012, 60110316013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	4.0	12/02/11 17:32	
Antimony, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Arsenic, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Barium, Dissolved	ug/L	ND	0.30	12/02/11 17:32	
Beryllium, Dissolved	ug/L	ND	0.20	12/02/11 17:32	
Cadmium, Dissolved	ug/L	ND	0.080	12/02/11 17:32	
Calcium, Dissolved	ug/L	ND	20.0	12/02/11 17:32	
Chromium, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Copper, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Iron, Dissolved	ug/L	ND	50.0	12/02/11 17:32	
Lead, Dissolved	ug/L	ND	0.10	12/02/11 17:32	
Magnesium, Dissolved	ug/L	ND	5.0	12/02/11 17:32	
Manganese, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Nickel, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Potassium, Dissolved	ug/L	ND	20.0	12/02/11 17:32	
Selenium, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Silver, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Sodium, Dissolved	ug/L	ND	50.0	12/02/11 17:32	
Thallium, Dissolved	ug/L	ND	0.10	12/02/11 17:32	
Vanadium, Dissolved	ug/L	ND	0.10	12/02/11 17:32	
Zinc, Dissolved	ug/L	ND	5.0	12/02/11 17:32	

LABORATORY CONTROL SAMPLE: 1101941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	80	79.6	100	85-115	
Antimony, Dissolved	ug/L	80	75.2	94	85-115	
Arsenic, Dissolved	ug/L	80	79.0	99	85-115	
Barium, Dissolved	ug/L	80	77.9	97	85-115	
Beryllium, Dissolved	ug/L	80	77.7	97	85-115	
Cadmium, Dissolved	ug/L	80	78.0	98	85-115	
Calcium, Dissolved	ug/L	1000	931	93	85-115	
Chromium, Dissolved	ug/L	80	78.3	98	85-115	
Copper, Dissolved	ug/L	80	77.7	97	85-115	
Iron, Dissolved	ug/L	1000	1010	101	85-115	
Lead, Dissolved	ug/L	80	83.7	105	85-115	
Magnesium, Dissolved	ug/L	1000	999	100	85-115	
Manganese, Dissolved	ug/L	80	79.3	99	85-115	
Nickel, Dissolved	ug/L	80	79.4	99	85-115	
Potassium, Dissolved	ug/L	1000	957	96	85-115	
Selenium, Dissolved	ug/L	80	79.7	100	85-115	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

LABORATORY CONTROL SAMPLE: 1101941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Silver, Dissolved	ug/L	80	77.6	97	85-115	
Sodium, Dissolved	ug/L	1000	1020	102	85-115	
Thallium, Dissolved	ug/L	80	81.0	101	85-115	
Vanadium, Dissolved	ug/L	80	77.1	96	85-115	
Zinc, Dissolved	ug/L	80	79.7	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1101942 1101943

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
		60110318001	Result	Spike Conc.	MS Result						
Aluminum, Dissolved	ug/L	35.0	80	80	141	142	133	134	70-130	.6	20 M6
Antimony, Dissolved	ug/L	ND	80	80	77.0	73.9	96	92	70-130	4	20
Arsenic, Dissolved	ug/L	ND	80	80	79.6	78.6	99	98	70-130	1	20
Barium, Dissolved	ug/L	31.9	80	80	113	112	102	100	70-130	.8	20
Beryllium, Dissolved	ug/L	ND	80	80	76.6	80.3	96	100	70-130	5	20
Cadmium, Dissolved	ug/L	0.12	80	80	79.0	78.6	99	98	70-130	.5	20
Calcium, Dissolved	ug/L	252000	1000	1000	266000	259000	1320	620	70-130	3	20 E,M6
Chromium, Dissolved	ug/L	ND	80	80	79.2	77.2	98	96	70-130	2	20
Copper, Dissolved	ug/L	2.2	80	80	79.2	78.8	96	96	70-130	.5	20
Iron, Dissolved	ug/L	ND	1000	1000	1080	1070	104	103	70-130	.7	20
Lead, Dissolved	ug/L	0.46	80	80	83.5	82.9	104	103	70-130	.8	20
Magnesium, Dissolved	ug/L	21000	1000	1000	22900	22100	190	112	70-130	3	20 M6
Manganese, Dissolved	ug/L	34.0	80	80	115	116	101	102	70-130	.5	20
Nickel, Dissolved	ug/L	1.9	80	80	83.3	79.1	102	97	70-130	5	20
Potassium, Dissolved	ug/L	1630	1000	1000	2720	2690	109	106	70-130	.8	20
Selenium, Dissolved	ug/L	14.7	80	80	91.5	94.7	96	100	70-130	3	20
Silver, Dissolved	ug/L	ND	80	80	77.9	76.2	97	95	70-130	2	20
Sodium, Dissolved	ug/L	9480	1000	1000	10900	10600	146	108	70-130	4	20 M6
Thallium, Dissolved	ug/L	ND	80	80	81.7	80.6	102	101	70-130	1	20
Vanadium, Dissolved	ug/L	ND	80	80	77.2	77.2	96	96	70-130	.05	20
Zinc, Dissolved	ug/L	13.1	80	80	91.9	93.9	98	101	70-130	2	20

MATRIX SPIKE SAMPLE: 1101944

Parameter	Units	60110318011	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L		9.8	80	125	144	70-130 M6
Antimony, Dissolved	ug/L		ND	80	98.4	123	70-130
Arsenic, Dissolved	ug/L		35.2	80	149	142	70-130 M6
Barium, Dissolved	ug/L		44.2	80	159	144	70-130 M6
Beryllium, Dissolved	ug/L		4.6	80	108	129	70-130
Cadmium, Dissolved	ug/L		ND	80	103	129	70-130
Calcium, Dissolved	ug/L	708000	1000	686000	-2160	70-130 E,M6	
Chromium, Dissolved	ug/L		ND	80	104	129	70-130
Copper, Dissolved	ug/L		3.0	80	105	127	70-130
Iron, Dissolved	ug/L	7300	1000	11700	438	70-130 M6	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

MATRIX SPIKE SAMPLE: 1101944

Parameter	Units	60110318011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	0.23	80	77.2	96	70-130	
Magnesium, Dissolved	ug/L	88300	1000	126000	3740	70-130 M6	
Manganese, Dissolved	ug/L	1080	80	1670	729	70-130 M6	
Nickel, Dissolved	ug/L	4.0	80	110	132	70-130 M6	
Potassium, Dissolved	ug/L	24000	1000	30000	606	70-130 M6	
Selenium, Dissolved	ug/L	ND	80	102	127	70-130	
Silver, Dissolved	ug/L	ND	80	91.5	114	70-130	
Sodium, Dissolved	ug/L	60100	1000	61800	166	70-130 M6	
Thallium, Dissolved	ug/L	1.8	80	102	125	70-130	
Vanadium, Dissolved	ug/L	ND	80	102	128	70-130	
Zinc, Dissolved	ug/L	91.1	80	233	178	70-130 M6	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	ICPM/29905	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Dissolved
Associated Lab Samples:	60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK: 1102990 Matrix: Water

Associated Lab Samples: 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Aluminum, Dissolved	ug/L	ND	4.0	11/29/11 14:07	
Antimony, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Arsenic, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Barium, Dissolved	ug/L	ND	0.30	11/29/11 14:07	
Beryllium, Dissolved	ug/L	ND	0.20	11/29/11 14:07	
Cadmium, Dissolved	ug/L	ND	0.080	11/29/11 14:07	
Calcium, Dissolved	ug/L	ND	20.0	11/29/11 14:07	
Chromium, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Copper, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Iron, Dissolved	ug/L	ND	50.0	11/29/11 14:07	
Lead, Dissolved	ug/L	ND	0.10	11/29/11 14:07	
Magnesium, Dissolved	ug/L	ND	5.0	11/29/11 14:07	
Manganese, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Nickel, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Potassium, Dissolved	ug/L	ND	20.0	11/29/11 14:07	
Selenium, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Silver, Dissolved	ug/L	ND	0.50	11/29/11 14:07	
Sodium, Dissolved	ug/L	ND	50.0	11/29/11 14:07	
Thallium, Dissolved	ug/L	ND	0.10	11/29/11 14:07	
Vanadium, Dissolved	ug/L	ND	0.10	11/29/11 14:07	
Zinc, Dissolved	ug/L	ND	5.0	11/29/11 14:07	

LABORATORY CONTROL SAMPLE: 1102991

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Aluminum, Dissolved	ug/L	80	84.3	105	85-115	
Antimony, Dissolved	ug/L	80	78.7	98	85-115	
Arsenic, Dissolved	ug/L	80	78.8	98	85-115	
Barium, Dissolved	ug/L	80	75.8	95	85-115	
Beryllium, Dissolved	ug/L	80	80.0	100	85-115	
Cadmium, Dissolved	ug/L	80	80.0	100	85-115	
Calcium, Dissolved	ug/L	1000	1050	105	85-115	
Chromium, Dissolved	ug/L	80	79.8	100	85-115	
Copper, Dissolved	ug/L	80	80.2	100	85-115	
Iron, Dissolved	ug/L	1000	1040	104	85-115	
Lead, Dissolved	ug/L	80	78.7	98	85-115	
Magnesium, Dissolved	ug/L	1000	1030	103	85-115	
Manganese, Dissolved	ug/L	80	79.4	99	85-115	
Nickel, Dissolved	ug/L	80	81.7	102	85-115	
Potassium, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	80	78.5	98	85-115	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

LABORATORY CONTROL SAMPLE: 1102991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Silver, Dissolved	ug/L	80	81.6	102	85-115	
Sodium, Dissolved	ug/L	1000	1010	101	85-115	
Thallium, Dissolved	ug/L	80	76.5	96	85-115	
Vanadium, Dissolved	ug/L	80	79.4	99	85-115	
Zinc, Dissolved	ug/L	80	79.9	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1102992 1102993

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
		60110464001	Result	Spike Conc.	MS Result						
Aluminum, Dissolved	ug/L	ND	80	80	94.0	97.9	108	113	70-130	4	20
Antimony, Dissolved	ug/L	ND	80	80	89.8	93.3	110	115	70-130	4	20
Arsenic, Dissolved	ug/L	15.0	80	80	105	108	112	116	70-130	3	20
Barium, Dissolved	ug/L	24.3	80	80	111	115	109	113	70-130	3	20
Beryllium, Dissolved	ug/L	ND	80	80	87.8	86.4	110	108	70-130	1	20
Cadmium, Dissolved	ug/L	5.7	80	80	93.7	96.6	110	114	70-130	3	20
Calcium, Dissolved	ug/L	66100	1000	1000	66400	67600	25	145	70-130	2	20 M1
Chromium, Dissolved	ug/L	ND	80	80	85.2	89.4	106	111	70-130	5	20
Copper, Dissolved	ug/L	10.7	80	80	97.2	99.8	108	111	70-130	3	20
Iron, Dissolved	ug/L	ND	1000	1000	1120	1190	112	119	70-130	6	20
Lead, Dissolved	ug/L	79.5	80	80	175	182	120	128	70-130	4	20
Magnesium, Dissolved	ug/L	38900	1000	1000	41800	42500	295	359	70-130	2	20 M1
Manganese, Dissolved	ug/L	9.0	80	80	95.6	100	108	114	70-130	5	20
Nickel, Dissolved	ug/L	192	80	80	284	291	115	124	70-130	3	20
Potassium, Dissolved	ug/L	4740	1000	1000	5600	5770	86	103	70-130	3	20
Selenium, Dissolved	ug/L	ND	80	80	91.2	93.6	114	117	70-130	3	20
Silver, Dissolved	ug/L	ND	80	80	66.9	75.8	82	93	70-130	13	20
Sodium, Dissolved	ug/L	34500	1000	1000	37200	37900	264	341	70-130	2	20 M1
Thallium, Dissolved	ug/L	ND	80	80	88.2	91.2	110	114	70-130	3	20
Vanadium, Dissolved	ug/L	ND	80	80	83.4	86.8	104	108	70-130	4	20
Zinc, Dissolved	ug/L	1300	80	80	1430	1460	159	199	70-130	2	20 M1

MATRIX SPIKE SAMPLE: 1102994

Parameter	Units	60110454003		Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
		Result						
Aluminum, Dissolved	ug/L		ND	80	97.0	104	70-130	
Antimony, Dissolved	ug/L		ND	80	84.7	104	70-130	
Arsenic, Dissolved	ug/L		ND	80	88.8	108	70-130	
Barium, Dissolved	ug/L		37.2	80	117	99	70-130	
Beryllium, Dissolved	ug/L		ND	80	81.1	101	70-130	
Cadmium, Dissolved	ug/L		1.2	80	84.5	104	70-130	
Calcium, Dissolved	ug/L	88600	1000		86300	-222	70-130 M6	
Chromium, Dissolved	ug/L		ND	80	83.5	102	70-130	
Copper, Dissolved	ug/L		ND	80	86.2	106	70-130	
Iron, Dissolved	ug/L		ND	1000	1090	107	70-130	

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QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

MATRIX SPIKE SAMPLE: 1102994

Parameter	Units	60110454003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	182	80	259	96	70-130	
Magnesium, Dissolved	ug/L	56600	1000	55000	-158	70-130	M6
Manganese, Dissolved	ug/L	83.6	80	165	102	70-130	
Nickel, Dissolved	ug/L	131	80	213	102	70-130	
Potassium, Dissolved	ug/L	3650	1000	4700	106	70-130	
Selenium, Dissolved	ug/L	ND	80	86.8	108	70-130	
Silver, Dissolved	ug/L	ND	80	33.6	42	70-130	M6
Sodium, Dissolved	ug/L	26800	1000	26700	-5	70-130	M6
Thallium, Dissolved	ug/L	ND	80	82.2	102	70-130	
Vanadium, Dissolved	ug/L	ND	80	80.7	101	70-130	
Zinc, Dissolved	ug/L	1180	80	1220	56	70-130	M6

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	MERC/6239	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK: 1105615 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury	ug/L	ND	0.20	11/30/11 12:28	

LABORATORY CONTROL SAMPLE: 1105616

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury	ug/L	5	4.6	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1105617 1105618

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60110316001	Spike										
Mercury	ug/L	ND	5	5	6.6	6.1	132	121	80-120	9	20	M1	

MATRIX SPIKE SAMPLE: 1105619

Parameter	Units	60110316016		Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Conc.	Result	% Rec	Limits		
Mercury	ug/L	ND	5	5	7.6	149	80-120	M1	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	MERC/6243	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury Dissolved
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK: 1105639 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury, Dissolved	ug/L	ND	0.20	11/30/11 10:10	

LABORATORY CONTROL SAMPLE: 1105640

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury, Dissolved	ug/L	5	5.4	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1105641 1105642

Parameter	Units	60110316001	MS	MSD	MS	% Rec	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		Result	Spike	Spike									
Mercury, Dissolved	ug/L	ND	5	5	5.0	5.4	100	107	80-120	7	20		

MATRIX SPIKE SAMPLE: 1105706

Parameter	Units	60110316018		Spike	MS	MS	% Rec	% Rec	RPD	RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	Limits	Limits		
Mercury, Dissolved	ug/L	ND	5	5	5.5	109	107	80-120	7	20	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	MT/7748	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK: 1104260 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Specific Conductance	umhos/cm	ND	10.0	11/22/11 17:43	

LABORATORY CONTROL SAMPLE: 1104261

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Specific Conductance	umhos/cm	1000	983	98	90-110	

SAMPLE DUPLICATE: 1104262

Parameter	Units	60110316001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Specific Conductance	umhos/cm	291	290	.4	20	

SAMPLE DUPLICATE: 1104263

Parameter	Units	60110316018	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Specific Conductance	umhos/cm	6780	6770	.1	20	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	WET/32187	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK: 915574 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	11/21/11 16:00	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	11/21/11 16:00	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	11/21/11 16:00	

LABORATORY CONTROL SAMPLE: 915575

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Alkalinity, Total as CaCO ₃	mg/L	500	494	99	90-110	

SAMPLE DUPLICATE: 915576

Parameter	Units	60110316001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	102	100	2	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	102	100	2	9	

SAMPLE DUPLICATE: 915577

Parameter	Units	60110316002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	108	112	4	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	108	112	4	9	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

QC Batch:	WET/32095	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013		

METHOD BLANK: 912107 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007,
60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	11/16/11 11:22	

SAMPLE DUPLICATE: 912108

Parameter	Units	60110319001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1030	2	17	

SAMPLE DUPLICATE: 912472

Parameter	Units	60110316003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	914	923	1	17	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

QC Batch:	WET/32127	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK: 913057	Matrix: Water
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Associated Lab Samples: 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	11/17/11 15:00	

SAMPLE DUPLICATE: 913058

Parameter	Units	60110316014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	794	1	17	

SAMPLE DUPLICATE: 913059

Parameter	Units	60110318002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	723	684	6	17	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch:	WET/32128	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60110316001, 60110316002, 60110316003, 60110316004, 60110316005		

METHOD BLANK: 913153	Matrix: Water
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Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	11/17/11 14:41	

SAMPLE DUPLICATE: 913970

Parameter	Units	60110108001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	460	540	16	25	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

QC Batch:	WET/32129	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

METHOD BLANK:	913166	Matrix:	Water
Associated Lab Samples:	60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	11/17/11 14:46	

SAMPLE DUPLICATE: 913167

Parameter	Units	60110316006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 913168

Parameter	Units	60110316016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	166	168	1	25	

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch: WETA/18395 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

METHOD BLANK: 914916 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	11/20/11 01:00	

METHOD BLANK: 915801 Matrix: Water

Associated Lab Samples: 60110316010

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	11/20/11 10:10	

LABORATORY CONTROL SAMPLE: 914917

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	5.2	105	90-110	

LABORATORY CONTROL SAMPLE: 915802

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE SAMPLE: 914918

Parameter	Units	60110316001	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Sulfate	mg/L	48.6	25	69.5	84	61-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 914919 914920

Parameter	Units	MS	MSD	MS	MSD	% Rec	% Rec	Max	
		Spike	Spike						
Sulfate	mg/L	83.9	25	104	103	81	78	61-119	1 10

QUALITY CONTROL DATA

Project: Rico November 2011 Water Sampl

Pace Project No.: 60110316

QC Batch: WETA/18365 Analysis Method: SM 4500-CN-E

QC Batch Method: SM 4500-CN-E Analysis Description: 4500CNE Cyanide, Total

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

METHOD BLANK: 913855 Matrix: Water

Associated Lab Samples: 60110316001, 60110316002, 60110316003, 60110316004, 60110316005, 60110316006, 60110316007, 60110316008, 60110316009, 60110316010, 60110316011, 60110316012, 60110316013, 60110316014, 60110316015, 60110316016, 60110316017, 60110316018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Cyanide	mg/L	ND	0.0050	11/21/11 14:45	

LABORATORY CONTROL SAMPLE: 913856

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Cyanide	mg/L	.1	0.10	102	69-126	

MATRIX SPIKE SAMPLE: 913857

Parameter	Units	60110482001	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Cyanide	mg/L	0.0056	.1	0.10	98	41-136	

SAMPLE DUPLICATE: 913858

Parameter	Units	60110316001	Dup	Max	Qualifiers
		Result	Result	RPD	RPD
Cyanide	mg/L	ND	.0045J	26	

QUALIFIERS

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110316001	DR-1	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316002	DR-2	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316003	DR-3	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316004	DR-4	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316005	DR-5	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316006	DR-6	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316007	DR-7	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316008	DR-8	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316009	DR-4-SW	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316010	DR-G	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316011	FB	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316012	GW-1	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316013	GW-3	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316014	GW-4	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316015	GW-5	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316016	GW-7	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316017	EB-1	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316018	EB-2	EPA 200.8	ICPM/29881	EPA 200.8	ICPM/11939
60110316001	DR-1	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316002	DR-2	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316003	DR-3	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316004	DR-4	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316005	DR-5	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316006	DR-6	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316007	DR-7	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316008	DR-8	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316009	DR-4-SW	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316010	DR-G	EPA 200.8	ICPM/29876	EPA 200.8	ICPM/11929
60110316011	FB	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110316012	GW-1	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110316013	GW-3	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110316014	GW-4	EPA 200.8	ICPM/29905	EPA 200.8	ICPM/11901
60110316015	GW-5	EPA 200.8	ICPM/29905	EPA 200.8	ICPM/11901
60110316016	GW-7	EPA 200.8	ICPM/29905	EPA 200.8	ICPM/11901
60110316017	EB-1	EPA 200.8	ICPM/29905	EPA 200.8	ICPM/11901
60110316018	EB-2	EPA 200.8	ICPM/29905	EPA 200.8	ICPM/11901
60110316001	DR-1	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316002	DR-2	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316003	DR-3	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316004	DR-4	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316005	DR-5	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316006	DR-6	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316007	DR-7	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316008	DR-8	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316009	DR-4-SW	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316010	DR-G	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316011	FB	EPA 7470	MERC/6239	EPA 7470	MERC/7050

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110316012	GW-1	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316013	GW-3	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316014	GW-4	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316015	GW-5	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316016	GW-7	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316017	EB-1	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316018	EB-2	EPA 7470	MERC/6239	EPA 7470	MERC/7050
60110316001	DR-1	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316002	DR-2	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316003	DR-3	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316004	DR-4	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316005	DR-5	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316006	DR-6	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316007	DR-7	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316008	DR-8	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316009	DR-4-SW	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316010	DR-G	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316011	FB	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316012	GW-1	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316013	GW-3	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316014	GW-4	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316015	GW-5	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316016	GW-7	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316017	EB-1	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316018	EB-2	EPA 7470	MERC/6243	EPA 7470	MERC/7044
60110316001	DR-1	SM 2510B	MT/7748		
60110316002	DR-2	SM 2510B	MT/7748		
60110316003	DR-3	SM 2510B	MT/7748		
60110316004	DR-4	SM 2510B	MT/7748		
60110316005	DR-5	SM 2510B	MT/7748		
60110316006	DR-6	SM 2510B	MT/7748		
60110316007	DR-7	SM 2510B	MT/7748		
60110316008	DR-8	SM 2510B	MT/7748		
60110316009	DR-4-SW	SM 2510B	MT/7748		
60110316010	DR-G	SM 2510B	MT/7748		
60110316011	FB	SM 2510B	MT/7748		
60110316012	GW-1	SM 2510B	MT/7748		
60110316013	GW-3	SM 2510B	MT/7748		
60110316014	GW-4	SM 2510B	MT/7748		
60110316015	GW-5	SM 2510B	MT/7748		
60110316016	GW-7	SM 2510B	MT/7748		
60110316017	EB-1	SM 2510B	MT/7748		
60110316018	EB-2	SM 2510B	MT/7748		
60110316001	DR-1	Calculated	MT/7747		
60110316002	DR-2	Calculated	MT/7747		
60110316003	DR-3	Calculated	MT/7747		
60110316004	DR-4	Calculated	MT/7747		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110316005	DR-5	Calculated	MT/7747		
60110316006	DR-6	Calculated	MT/7747		
60110316007	DR-7	Calculated	MT/7747		
60110316008	DR-8	Calculated	MT/7747		
60110316009	DR-4-SW	Calculated	MT/7747		
60110316010	DR-G	Calculated	MT/7747		
60110316011	FB	Calculated	MT/7747		
60110316012	GW-1	Calculated	MT/7747		
60110316013	GW-3	Calculated	MT/7747		
60110316014	GW-4	Calculated	MT/7747		
60110316015	GW-5	Calculated	MT/7747		
60110316016	GW-7	Calculated	MT/7747		
60110316017	EB-1	Calculated	MT/7747		
60110316018	EB-2	Calculated	MT/7747		
60110316001	DR-1	SM 2320B	WET/32187		
60110316002	DR-2	SM 2320B	WET/32187		
60110316003	DR-3	SM 2320B	WET/32187		
60110316004	DR-4	SM 2320B	WET/32187		
60110316005	DR-5	SM 2320B	WET/32187		
60110316006	DR-6	SM 2320B	WET/32187		
60110316007	DR-7	SM 2320B	WET/32187		
60110316008	DR-8	SM 2320B	WET/32187		
60110316009	DR-4-SW	SM 2320B	WET/32187		
60110316010	DR-G	SM 2320B	WET/32187		
60110316011	FB	SM 2320B	WET/32187		
60110316012	GW-1	SM 2320B	WET/32187		
60110316013	GW-3	SM 2320B	WET/32187		
60110316014	GW-4	SM 2320B	WET/32187		
60110316015	GW-5	SM 2320B	WET/32187		
60110316016	GW-7	SM 2320B	WET/32187		
60110316017	EB-1	SM 2320B	WET/32187		
60110316018	EB-2	SM 2320B	WET/32187		
60110316001	DR-1	SM 2540C	WET/32095		
60110316002	DR-2	SM 2540C	WET/32095		
60110316003	DR-3	SM 2540C	WET/32095		
60110316004	DR-4	SM 2540C	WET/32095		
60110316005	DR-5	SM 2540C	WET/32095		
60110316006	DR-6	SM 2540C	WET/32095		
60110316007	DR-7	SM 2540C	WET/32095		
60110316008	DR-8	SM 2540C	WET/32095		
60110316009	DR-4-SW	SM 2540C	WET/32095		
60110316010	DR-G	SM 2540C	WET/32095		
60110316011	FB	SM 2540C	WET/32095		
60110316012	GW-1	SM 2540C	WET/32095		
60110316013	GW-3	SM 2540C	WET/32095		
60110316014	GW-4	SM 2540C	WET/32127		
60110316015	GW-5	SM 2540C	WET/32127		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico November 2011 Water Sampl
Pace Project No.: 60110316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110316016	GW-7	SM 2540C	WET/32127		
60110316017	EB-1	SM 2540C	WET/32127		
60110316018	EB-2	SM 2540C	WET/32127		
60110316001	DR-1	SM 2540D	WET/32128		
60110316002	DR-2	SM 2540D	WET/32128		
60110316003	DR-3	SM 2540D	WET/32128		
60110316004	DR-4	SM 2540D	WET/32128		
60110316005	DR-5	SM 2540D	WET/32128		
60110316006	DR-6	SM 2540D	WET/32129		
60110316007	DR-7	SM 2540D	WET/32129		
60110316008	DR-8	SM 2540D	WET/32129		
60110316009	DR-4-SW	SM 2540D	WET/32129		
60110316010	DR-G	SM 2540D	WET/32129		
60110316011	FB	SM 2540D	WET/32129		
60110316012	GW-1	SM 2540D	WET/32129		
60110316013	GW-3	SM 2540D	WET/32129		
60110316014	GW-4	SM 2540D	WET/32129		
60110316015	GW-5	SM 2540D	WET/32129		
60110316016	GW-7	SM 2540D	WET/32129		
60110316017	EB-1	SM 2540D	WET/32129		
60110316018	EB-2	SM 2540D	WET/32129		
60110316001	DR-1	EPA 300.0	WETA/18395		
60110316002	DR-2	EPA 300.0	WETA/18395		
60110316003	DR-3	EPA 300.0	WETA/18395		
60110316004	DR-4	EPA 300.0	WETA/18395		
60110316005	DR-5	EPA 300.0	WETA/18395		
60110316006	DR-6	EPA 300.0	WETA/18395		
60110316007	DR-7	EPA 300.0	WETA/18395		
60110316008	DR-8	EPA 300.0	WETA/18395		
60110316009	DR-4-SW	EPA 300.0	WETA/18395		
60110316010	DR-G	EPA 300.0	WETA/18395		
60110316011	FB	EPA 300.0	WETA/18395		
60110316012	GW-1	EPA 300.0	WETA/18395		
60110316013	GW-3	EPA 300.0	WETA/18395		
60110316014	GW-4	EPA 300.0	WETA/18395		
60110316015	GW-5	EPA 300.0	WETA/18395		
60110316016	GW-7	EPA 300.0	WETA/18395		
60110316017	EB-1	EPA 300.0	WETA/18395		
60110316018	EB-2	EPA 300.0	WETA/18395		
60110316001	DR-1	SM 4500-CN-E	WETA/18365		
60110316002	DR-2	SM 4500-CN-E	WETA/18365		
60110316003	DR-3	SM 4500-CN-E	WETA/18365		
60110316004	DR-4	SM 4500-CN-E	WETA/18365		
60110316005	DR-5	SM 4500-CN-E	WETA/18365		
60110316006	DR-6	SM 4500-CN-E	WETA/18365		
60110316007	DR-7	SM 4500-CN-E	WETA/18365		
60110316008	DR-8	SM 4500-CN-E	WETA/18365		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico November 2011 Water Sampl
 Pace Project No.: 60110316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110316009	DR-4-SW	SM 4500-CN-E	WETA/18365		
60110316010	DR-G	SM 4500-CN-E	WETA/18365		
60110316011	FB	SM 4500-CN-E	WETA/18365		
60110316012	GW-1	SM 4500-CN-E	WETA/18365		
60110316013	GW-3	SM 4500-CN-E	WETA/18365		
60110316014	GW-4	SM 4500-CN-E	WETA/18365		
60110316015	GW-5	SM 4500-CN-E	WETA/18365		
60110316016	GW-7	SM 4500-CN-E	WETA/18365		
60110316017	EB-1	SM 4500-CN-E	WETA/18365		
60110316018	EB-2	SM 4500-CN-E	WETA/18365		

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	ICPM/29880	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008		

METHOD BLANK: 1101962 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007,
60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014,
60110318015, 60110318016, 60110318017

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Aluminum	ug/L	ND	4.0	12/01/11 16:35	
Antimony	ug/L	ND	0.50	12/01/11 16:35	
Arsenic	ug/L	ND	0.50	12/01/11 16:35	
Barium	ug/L	ND	0.30	12/01/11 16:35	
Beryllium	ug/L	ND	0.20	12/01/11 16:35	
Cadmium	ug/L	ND	0.080	12/01/11 16:35	
Calcium	ug/L	ND	20.0	12/01/11 16:35	
Chromium	ug/L	ND	0.50	12/01/11 16:35	
Copper	ug/L	ND	0.50	12/01/11 16:35	
Iron	ug/L	ND	50.0	12/01/11 16:35	
Lead	ug/L	ND	0.10	12/01/11 16:35	
Magnesium	ug/L	ND	5.0	12/01/11 16:35	
Manganese	ug/L	ND	0.50	12/01/11 16:35	
Nickel	ug/L	ND	0.50	12/01/11 16:35	
Potassium	ug/L	ND	20.0	12/01/11 16:35	
Selenium	ug/L	ND	0.50	12/01/11 16:35	
Silver	ug/L	ND	0.50	12/01/11 16:35	
Sodium	ug/L	ND	50.0	12/01/11 16:35	
Thallium	ug/L	ND	0.10	12/01/11 16:35	
Total Hardness by 2340B	ug/L	ND	71.0	12/01/11 16:35	
Vanadium	ug/L	ND	0.10	12/01/11 16:35	
Zinc	ug/L	ND	5.0	12/01/11 16:35	

LABORATORY CONTROL SAMPLE: 1101963

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Aluminum	ug/L	80	82.7	103	85-115	
Antimony	ug/L	80	75.7	95	85-115	
Arsenic	ug/L	80	80.2	100	85-115	
Barium	ug/L	80	78.0	98	85-115	
Beryllium	ug/L	80	88.0	110	85-115	
Cadmium	ug/L	80	80.3	100	85-115	
Calcium	ug/L	1000	984	98	85-115	
Chromium	ug/L	80	80.6	101	85-115	
Copper	ug/L	80	81.3	102	85-115	
Iron	ug/L	1000	1030	103	85-115	
Lead	ug/L	80	79.9	100	85-115	
Magnesium	ug/L	1000	1050	105	85-115	
Manganese	ug/L	80	79.8	100	85-115	

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QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

LABORATORY CONTROL SAMPLE: 1101963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel	ug/L	80	80.8	101	85-115	
Potassium	ug/L	1000	1020	102	85-115	
Selenium	ug/L	80	77.0	96	85-115	
Silver	ug/L	80	79.7	100	85-115	
Sodium	ug/L	1000	1070	107	85-115	
Thallium	ug/L	80	80.2	100	85-115	
Total Hardness by 2340B	ug/L		6780			
Vanadium	ug/L	80	79.4	99	85-115	
Zinc	ug/L	80	80.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1101964 1101965

Parameter	Units	MS		MSD		MS	MSD	% Rec	% Rec Limits	Max		
		60110318001	Spike Conc.	Spike Conc.	Result					RPD	RPD	Qual
Aluminum	ug/L	1030	80	80	1500	1640	586	765	70-130	.9	20	M1
Antimony	ug/L	ND	80	80	74.2	74.7	92	93	70-130	.7	20	
Arsenic	ug/L	0.91	80	80	82.8	83.8	102	104	70-130	1	20	
Barium	ug/L	45.4	80	80	125	127	100	102	70-130	1	20	
Beryllium	ug/L	ND	80	80	84.6	84.0	106	105	70-130	.7	20	
Cadmium	ug/L	0.12	80	80	79.5	79.6	99	99	70-130	.06	20	
Calcium	ug/L	236000	1000	1000	238000	240000	195	380	70-130	.8	20	M1
Chromium	ug/L	1.3	80	80	82.1	81.8	101	101	70-130	.4	20	
Copper	ug/L	3.7	80	80	83.6	85.6	100	102	70-130	2	20	
Iron	ug/L	1230	1000	1000	2440	2560	121	132	70-130	4	20	M1
Lead	ug/L	7.7	80	80	84.8	85.6	96	97	70-130	1	20	
Magnesium	ug/L	20600	1000	1000	22700	23200	209	257	70-130	2	20	M1
Manganese	ug/L	106	80	80	192	193	108	108	70-130	.2	20	
Nickel	ug/L	0.88	80	80	81.9	82.6	101	102	70-130	.9	20	
Potassium	ug/L	1830	1000	1000	2960	3030	113	120	70-130	2	20	
Selenium	ug/L	13.6	80	80	91.8	95.6	98	103	70-130	4	20	
Silver	ug/L	ND	80	80	62.8	69.0	78	86	70-130	10	20	
Sodium	ug/L	9300	1000	1000	10600	10700	131	137	70-130	.6	20	M1
Thallium	ug/L	ND	80	80	76.6	77.0	96	96	70-130	.6	20	
Total Hardness by 2340B	ug/L	675000			688000	695000				1	20	
Vanadium	ug/L	1.4	80	80	81.9	82.8	101	102	70-130	1	20	
Zinc	ug/L	17.8	80	80	95.4	98.8	97	101	70-130	4	20	

MATRIX SPIKE SAMPLE: 1101966

Parameter	Units	60110318011	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L		10.4	80	91.8	102	70-130
Antimony	ug/L		ND	80	80.6	100	70-130
Arsenic	ug/L		38.2	80	123	106	70-130
Barium	ug/L		44.6	80	126	102	70-130
Beryllium	ug/L		4.6	80	91.9	109	70-130

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QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

MATRIX SPIKE SAMPLE: 1101966

Parameter	Units	60110318011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	ND	80	81.4	102	70-130	
Calcium	ug/L	658000	1000	642000	-1550	70-130	M1
Chromium	ug/L	ND	80	80.6	100	70-130	
Copper	ug/L	0.65	80	81.6	101	70-130	
Iron	ug/L	8500	1000	10000	150	70-130	
Lead	ug/L	0.28	80	78.5	98	70-130	
Magnesium	ug/L	93000	1000	92800	-23	70-130	M1
Manganese	ug/L	1180	80	1260	107	70-130	
Nickel	ug/L	1.8	80	84.5	103	70-130	
Potassium	ug/L	24800	1000	25500	72	70-130	
Selenium	ug/L	ND	80	79.8	100	70-130	
Silver	ug/L	ND	80	71.9	90	70-130	
Sodium	ug/L	67900	1000	67500	-36	70-130	M1
Thallium	ug/L	1.6	80	79.6	98	70-130	
Total Hardness by 2340B	ug/L	2030000		1990000			
Vanadium	ug/L	ND	80	85.6	107	70-130	
Zinc	ug/L	82.1	80	169	109	70-130	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	ICPM/29877	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Dissolved
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009		

METHOD BLANK: 1101940 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007,
60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014,
60110318015, 60110318016, 60110318017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	4.0	12/02/11 17:32	
Antimony, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Arsenic, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Barium, Dissolved	ug/L	ND	0.30	12/02/11 17:32	
Beryllium, Dissolved	ug/L	ND	0.20	12/02/11 17:32	
Cadmium, Dissolved	ug/L	ND	0.080	12/02/11 17:32	
Calcium, Dissolved	ug/L	ND	20.0	12/02/11 17:32	
Chromium, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Copper, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Iron, Dissolved	ug/L	ND	50.0	12/02/11 17:32	
Lead, Dissolved	ug/L	ND	0.10	12/02/11 17:32	
Magnesium, Dissolved	ug/L	ND	5.0	12/02/11 17:32	
Manganese, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Nickel, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Potassium, Dissolved	ug/L	ND	20.0	12/02/11 17:32	
Selenium, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Silver, Dissolved	ug/L	ND	0.50	12/02/11 17:32	
Sodium, Dissolved	ug/L	ND	50.0	12/02/11 17:32	
Thallium, Dissolved	ug/L	ND	0.10	12/02/11 17:32	
Vanadium, Dissolved	ug/L	ND	0.10	12/02/11 17:32	
Zinc, Dissolved	ug/L	ND	5.0	12/02/11 17:32	

LABORATORY CONTROL SAMPLE: 1101941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	80	79.6	100	85-115	
Antimony, Dissolved	ug/L	80	75.2	94	85-115	
Arsenic, Dissolved	ug/L	80	79.0	99	85-115	
Barium, Dissolved	ug/L	80	77.9	97	85-115	
Beryllium, Dissolved	ug/L	80	77.7	97	85-115	
Cadmium, Dissolved	ug/L	80	78.0	98	85-115	
Calcium, Dissolved	ug/L	1000	931	93	85-115	
Chromium, Dissolved	ug/L	80	78.3	98	85-115	
Copper, Dissolved	ug/L	80	77.7	97	85-115	
Iron, Dissolved	ug/L	1000	1010	101	85-115	
Lead, Dissolved	ug/L	80	83.7	105	85-115	
Magnesium, Dissolved	ug/L	1000	999	100	85-115	
Manganese, Dissolved	ug/L	80	79.3	99	85-115	
Nickel, Dissolved	ug/L	80	79.4	99	85-115	

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QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

LABORATORY CONTROL SAMPLE: 1101941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Potassium, Dissolved	ug/L	1000	957	96	85-115	
Selenium, Dissolved	ug/L	80	79.7	100	85-115	
Silver, Dissolved	ug/L	80	77.6	97	85-115	
Sodium, Dissolved	ug/L	1000	1020	102	85-115	
Thallium, Dissolved	ug/L	80	81.0	101	85-115	
Vanadium, Dissolved	ug/L	80	77.1	96	85-115	
Zinc, Dissolved	ug/L	80	79.7	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1101942 1101943

Parameter	Units	60110318001 Result	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec	Max		
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Aluminum, Dissolved	ug/L	35.0	80	80	141	142	133	134	70-130	.6	20	M6
Antimony, Dissolved	ug/L	ND	80	80	77.0	73.9	96	92	70-130	4	20	
Arsenic, Dissolved	ug/L	ND	80	80	79.6	78.6	99	98	70-130	1	20	
Barium, Dissolved	ug/L	31.9	80	80	113	112	102	100	70-130	.8	20	
Beryllium, Dissolved	ug/L	ND	80	80	76.6	80.3	96	100	70-130	5	20	
Cadmium, Dissolved	ug/L	0.12	80	80	79.0	78.6	99	98	70-130	.5	20	
Calcium, Dissolved	ug/L	252000	1000	1000	266000	259000	1320	620	70-130	3	20	E,M6
Chromium, Dissolved	ug/L	ND	80	80	79.2	77.2	98	96	70-130	2	20	
Copper, Dissolved	ug/L	2.2	80	80	79.2	78.8	96	96	70-130	.5	20	
Iron, Dissolved	ug/L	ND	1000	1000	1080	1070	104	103	70-130	.7	20	
Lead, Dissolved	ug/L	0.46	80	80	83.5	82.9	104	103	70-130	.8	20	
Magnesium, Dissolved	ug/L	21000	1000	1000	22900	22100	190	112	70-130	3	20	M6
Manganese, Dissolved	ug/L	34.0	80	80	115	116	101	102	70-130	.5	20	
Nickel, Dissolved	ug/L	1.9	80	80	83.3	79.1	102	97	70-130	5	20	
Potassium, Dissolved	ug/L	1630	1000	1000	2720	2690	109	106	70-130	.8	20	
Selenium, Dissolved	ug/L	14.7	80	80	91.5	94.7	96	100	70-130	3	20	
Silver, Dissolved	ug/L	ND	80	80	77.9	76.2	97	95	70-130	2	20	
Sodium, Dissolved	ug/L	9480	1000	1000	10900	10600	146	108	70-130	4	20	M6
Thallium, Dissolved	ug/L	ND	80	80	81.7	80.6	102	101	70-130	1	20	
Vanadium, Dissolved	ug/L	ND	80	80	77.2	77.2	96	96	70-130	.05	20	
Zinc, Dissolved	ug/L	13.1	80	80	91.9	93.9	98	101	70-130	2	20	

MATRIX SPIKE SAMPLE: 1101944

Parameter	Units	60110318011 Result	Spike	MS	MS	% Rec
			Conc.	Result	% Rec	Limits
Aluminum, Dissolved	ug/L		9.8	80	125	144
Antimony, Dissolved	ug/L		ND	80	98.4	123
Arsenic, Dissolved	ug/L		35.2	80	149	142
Barium, Dissolved	ug/L		44.2	80	159	144
Beryllium, Dissolved	ug/L		4.6	80	108	129
Cadmium, Dissolved	ug/L		ND	80	103	129
Calcium, Dissolved	ug/L	708000	1000	686000	-2160	70-130 E,M6
Chromium, Dissolved	ug/L		ND	80	104	129

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QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

MATRIX SPIKE SAMPLE: 1101944

Parameter	Units	60110318011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Copper, Dissolved	ug/L	3.0	80	105	127	70-130	
Iron, Dissolved	ug/L	7300	1000	11700	438	70-130	M6
Lead, Dissolved	ug/L	0.23	80	77.2	96	70-130	
Magnesium, Dissolved	ug/L	88300	1000	126000	3740	70-130	M6
Manganese, Dissolved	ug/L	1080	80	1670	729	70-130	M6
Nickel, Dissolved	ug/L	4.0	80	110	132	70-130	M6
Potassium, Dissolved	ug/L	24000	1000	30000	606	70-130	M6
Selenium, Dissolved	ug/L	ND	80	102	127	70-130	
Silver, Dissolved	ug/L	ND	80	91.5	114	70-130	
Sodium, Dissolved	ug/L	60100	1000	61800	166	70-130	M6
Thallium, Dissolved	ug/L	1.8	80	102	125	70-130	
Vanadium, Dissolved	ug/L	ND	80	102	128	70-130	
Zinc, Dissolved	ug/L	91.1	80	233	178	70-130	M6

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	MERC/6238	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014, 60110318015, 60110318016, 60110318017		

METHOD BLANK: 1105610 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014, 60110318015, 60110318016, 60110318017

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury	ug/L	ND	0.20	11/30/11 09:08	

LABORATORY CONTROL SAMPLE: 1105611

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury	ug/L	5	5.1	103	80-120	

MATRIX SPIKE SAMPLE: 1105614

Parameter	Units	60110318017	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec		
Mercury	ug/L	0.38	5	6.5	123	80-120	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1105733 1105734

Parameter	Units	60110318002	MS	MSD	MS	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		Result	Spike	Spike									
Mercury	ug/L	ND	5	5	5.6	5.5	111	109	80-120	1	20		

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	MERC/6242	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury Dissolved
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014, 60110318015, 60110318016, 60110318017		

METHOD BLANK: 1105634 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014, 60110318015, 60110318016, 60110318017

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury, Dissolved	ug/L	ND	0.20	11/30/11 11:16	

LABORATORY CONTROL SAMPLE: 1105635

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury, Dissolved	ug/L	5	4.5	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1105636 1105637

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60110318001	Spike										
Mercury, Dissolved	ug/L	ND	5	5	5.4	4.4	108	87	80-120	21	20	D6	

MATRIX SPIKE SAMPLE: 1105638

Parameter	Units	60110318017		Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Conc.	Result	% Rec	Limits		
Mercury, Dissolved	ug/L	ND	5	5	6.2	123	80-120	M1	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	MT/7744	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014		

METHOD BLANK: 1103837 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	11/22/11 12:42	

LABORATORY CONTROL SAMPLE: 1103838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	990	99	90-110	

SAMPLE DUPLICATE: 1103839

Parameter	Units	60110318001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1040	1030	.6	20	

SAMPLE DUPLICATE: 1103840

Parameter	Units	10176219003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	5630	5610	.3	20	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	WET/32217	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014		

METHOD BLANK: 916441 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007,
60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	11/23/11 13:00	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	11/23/11 13:00	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	11/23/11 13:00	

LABORATORY CONTROL SAMPLE: 916442

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Alkalinity, Total as CaCO ₃	mg/L	500	502	100	90-110	

SAMPLE DUPLICATE: 916443

Parameter	Units	60110318001	Dup	Max	RPD	Qualifiers
		Result	Result			
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	92.0	88.0	4	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	92.0	88.0	4	9	

SAMPLE DUPLICATE: 916444

Parameter	Units	60110318002	Dup	Max	RPD	Qualifiers
		Result	Result			
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	102	102	0	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	102	102	0	9	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

QC Batch:	WET/32127	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318011, 60110318012, 60110318013, 60110318014		

METHOD BLANK: 913057 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007,
60110318008, 60110318009, 60110318011, 60110318012, 60110318013, 60110318014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	11/17/11 15:00	

SAMPLE DUPLICATE: 913058

Parameter	Units	60110316014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	794	1	17	

SAMPLE DUPLICATE: 913059

Parameter	Units	60110318002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	723	684	6	17	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch: WET/32154 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60110318010

METHOD BLANK: 914010 Matrix: Water

Associated Lab Samples: 60110318010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	11/18/11 15:36	

SAMPLE DUPLICATE: 914011

Parameter	Units	60110318010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	579	585	1	17	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch:	WET/32129	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60110318011, 60110318012, 60110318013, 60110318014		

METHOD BLANK: 913166	Matrix: Water
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Associated Lab Samples: 60110318011, 60110318012, 60110318013, 60110318014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	11/17/11 14:46	

SAMPLE DUPLICATE: 913167

Parameter	Units	60110316006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 913168

Parameter	Units	60110316016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	166	168	1	25	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

QC Batch:	WET/32155	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010		

METHOD BLANK:	914013	Matrix:	Water
Associated Lab Samples:	60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	11/18/11 10:41	

SAMPLE DUPLICATE: 914014

Parameter	Units	60110155001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	19.0	19.0	0	25	

SAMPLE DUPLICATE: 914015

Parameter	Units	60110318009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	613	580	6	25	

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch: WETA/18414 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014

METHOD BLANK: 917592 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007, 60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	11/23/11 12:42	

LABORATORY CONTROL SAMPLE: 917593

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	5.3	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 915982 915983

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60110318001	Spike										
Sulfate	mg/L	568	250	250	839	829	109	104	61-119	1	10		

MATRIX SPIKE SAMPLE: 915984

Parameter	Units	60110318008	Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits		
Sulfate	mg/L	701	250	914	85	61-119		

QUALITY CONTROL DATA

Project: Rico Monitoring Wells/EH Vents

Pace Project No.: 60110318

QC Batch: WETA/18367 Analysis Method: SM 4500-CN-E

QC Batch Method: SM 4500-CN-E Analysis Description: 4500CNE Cyanide, Total

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007,
60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014

METHOD BLANK: 913868 Matrix: Water

Associated Lab Samples: 60110318001, 60110318002, 60110318003, 60110318004, 60110318005, 60110318006, 60110318007,
60110318008, 60110318009, 60110318010, 60110318011, 60110318012, 60110318013, 60110318014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.0050	11/21/11 13:40	

LABORATORY CONTROL SAMPLE: 913869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.1	0.10	101	69-126	

MATRIX SPIKE SAMPLE: 913870

Parameter	Units	60110318011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	0.0078	.1	0.11	97	41-136	

SAMPLE DUPLICATE: 913871

Parameter	Units	60110318012 Result	Dup Result	Max RPD	Qualifiers
Cyanide	mg/L	ND	ND	26	

QUALIFIERS

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110318001	MW-1 SHALLOW	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318002	MW-1 DEEP	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318003	MW-3 SHALLOW	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318004	MW-3 DEEP	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318005	MW-4 SHALLOW	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318006	MW-4 DEEP	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318007	MW-5 SHALLOW	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318008	MW-5 DEEP	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318009	MW-6 SHALLOW	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318010	MW-6 DEEP	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318011	EH-1	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318012	EH-3	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318013	EH-4	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318014	EH-5	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318015	AD-2	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318016	AD-2A	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318017	AD-2B	EPA 200.8	ICPM/29880	EPA 200.8	ICPM/11946
60110318001	MW-1 SHALLOW	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318002	MW-1 DEEP	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318003	MW-3 SHALLOW	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318004	MW-3 DEEP	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318005	MW-4 SHALLOW	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318006	MW-4 DEEP	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318007	MW-5 SHALLOW	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318008	MW-5 DEEP	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318009	MW-6 SHALLOW	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318010	MW-6 DEEP	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318011	EH-1	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318012	EH-3	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318013	EH-4	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318014	EH-5	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318015	AD-2	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318016	AD-2A	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318017	AD-2B	EPA 200.8	ICPM/29877	EPA 200.8	ICPM/11937
60110318001	MW-1 SHALLOW	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318002	MW-1 DEEP	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318003	MW-3 SHALLOW	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318004	MW-3 DEEP	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318005	MW-4 SHALLOW	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318006	MW-4 DEEP	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318007	MW-5 SHALLOW	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318008	MW-5 DEEP	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318009	MW-6 SHALLOW	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318010	MW-6 DEEP	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318011	EH-1	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318012	EH-3	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318013	EH-4	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318014	EH-5	EPA 7470	MERC/6238	EPA 7470	MERC/7046

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110318015	AD-2	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318016	AD-2A	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318017	AD-2B	EPA 7470	MERC/6238	EPA 7470	MERC/7046
60110318001	MW-1 SHALLOW	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318002	MW-1 DEEP	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318003	MW-3 SHALLOW	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318004	MW-3 DEEP	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318005	MW-4 SHALLOW	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318006	MW-4 DEEP	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318007	MW-5 SHALLOW	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318008	MW-5 DEEP	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318009	MW-6 SHALLOW	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318010	MW-6 DEEP	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318011	EH-1	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318012	EH-3	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318013	EH-4	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318014	EH-5	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318015	AD-2	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318016	AD-2A	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318017	AD-2B	EPA 7470	MERC/6242	EPA 7470	MERC/7047
60110318001	MW-1 SHALLOW	SM 2510B	MT/7744		
60110318002	MW-1 DEEP	SM 2510B	MT/7744		
60110318003	MW-3 SHALLOW	SM 2510B	MT/7744		
60110318004	MW-3 DEEP	SM 2510B	MT/7744		
60110318005	MW-4 SHALLOW	SM 2510B	MT/7744		
60110318006	MW-4 DEEP	SM 2510B	MT/7744		
60110318007	MW-5 SHALLOW	SM 2510B	MT/7744		
60110318008	MW-5 DEEP	SM 2510B	MT/7744		
60110318009	MW-6 SHALLOW	SM 2510B	MT/7744		
60110318010	MW-6 DEEP	SM 2510B	MT/7744		
60110318011	EH-1	SM 2510B	MT/7744		
60110318012	EH-3	SM 2510B	MT/7744		
60110318013	EH-4	SM 2510B	MT/7744		
60110318014	EH-5	SM 2510B	MT/7744		
60110318001	MW-1 SHALLOW	Calculated	MT/7746		
60110318002	MW-1 DEEP	Calculated	MT/7746		
60110318003	MW-3 SHALLOW	Calculated	MT/7746		
60110318004	MW-3 DEEP	Calculated	MT/7746		
60110318005	MW-4 SHALLOW	Calculated	MT/7746		
60110318006	MW-4 DEEP	Calculated	MT/7746		
60110318007	MW-5 SHALLOW	Calculated	MT/7746		
60110318008	MW-5 DEEP	Calculated	MT/7746		
60110318009	MW-6 SHALLOW	Calculated	MT/7746		
60110318010	MW-6 DEEP	Calculated	MT/7746		
60110318011	EH-1	Calculated	MT/7746		
60110318012	EH-3	Calculated	MT/7746		
60110318013	EH-4	Calculated	MT/7746		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110318014	EH-5	Calculated	MT/7746		
60110318001	MW-1 SHALLOW	SM 2320B	WET/32217		
60110318002	MW-1 DEEP	SM 2320B	WET/32217		
60110318003	MW-3 SHALLOW	SM 2320B	WET/32217		
60110318004	MW-3 DEEP	SM 2320B	WET/32217		
60110318005	MW-4 SHALLOW	SM 2320B	WET/32217		
60110318006	MW-4 DEEP	SM 2320B	WET/32217		
60110318007	MW-5 SHALLOW	SM 2320B	WET/32217		
60110318008	MW-5 DEEP	SM 2320B	WET/32217		
60110318009	MW-6 SHALLOW	SM 2320B	WET/32217		
60110318010	MW-6 DEEP	SM 2320B	WET/32217		
60110318011	EH-1	SM 2320B	WET/32217		
60110318012	EH-3	SM 2320B	WET/32217		
60110318013	EH-4	SM 2320B	WET/32217		
60110318014	EH-5	SM 2320B	WET/32217		
60110318001	MW-1 SHALLOW	SM 2540C	WET/32127		
60110318002	MW-1 DEEP	SM 2540C	WET/32127		
60110318003	MW-3 SHALLOW	SM 2540C	WET/32127		
60110318004	MW-3 DEEP	SM 2540C	WET/32127		
60110318005	MW-4 SHALLOW	SM 2540C	WET/32127		
60110318006	MW-4 DEEP	SM 2540C	WET/32127		
60110318007	MW-5 SHALLOW	SM 2540C	WET/32127		
60110318008	MW-5 DEEP	SM 2540C	WET/32127		
60110318009	MW-6 SHALLOW	SM 2540C	WET/32127		
60110318010	MW-6 DEEP	SM 2540C	WET/32154		
60110318011	EH-1	SM 2540C	WET/32127		
60110318012	EH-3	SM 2540C	WET/32127		
60110318013	EH-4	SM 2540C	WET/32127		
60110318014	EH-5	SM 2540C	WET/32127		
60110318001	MW-1 SHALLOW	SM 2540D	WET/32155		
60110318002	MW-1 DEEP	SM 2540D	WET/32155		
60110318003	MW-3 SHALLOW	SM 2540D	WET/32155		
60110318004	MW-3 DEEP	SM 2540D	WET/32155		
60110318005	MW-4 SHALLOW	SM 2540D	WET/32155		
60110318006	MW-4 DEEP	SM 2540D	WET/32155		
60110318007	MW-5 SHALLOW	SM 2540D	WET/32155		
60110318008	MW-5 DEEP	SM 2540D	WET/32155		
60110318009	MW-6 SHALLOW	SM 2540D	WET/32155		
60110318010	MW-6 DEEP	SM 2540D	WET/32155		
60110318011	EH-1	SM 2540D	WET/32129		
60110318012	EH-3	SM 2540D	WET/32129		
60110318013	EH-4	SM 2540D	WET/32129		
60110318014	EH-5	SM 2540D	WET/32129		
60110318001	MW-1 SHALLOW	EPA 300.0	WETA/18414		
60110318002	MW-1 DEEP	EPA 300.0	WETA/18414		

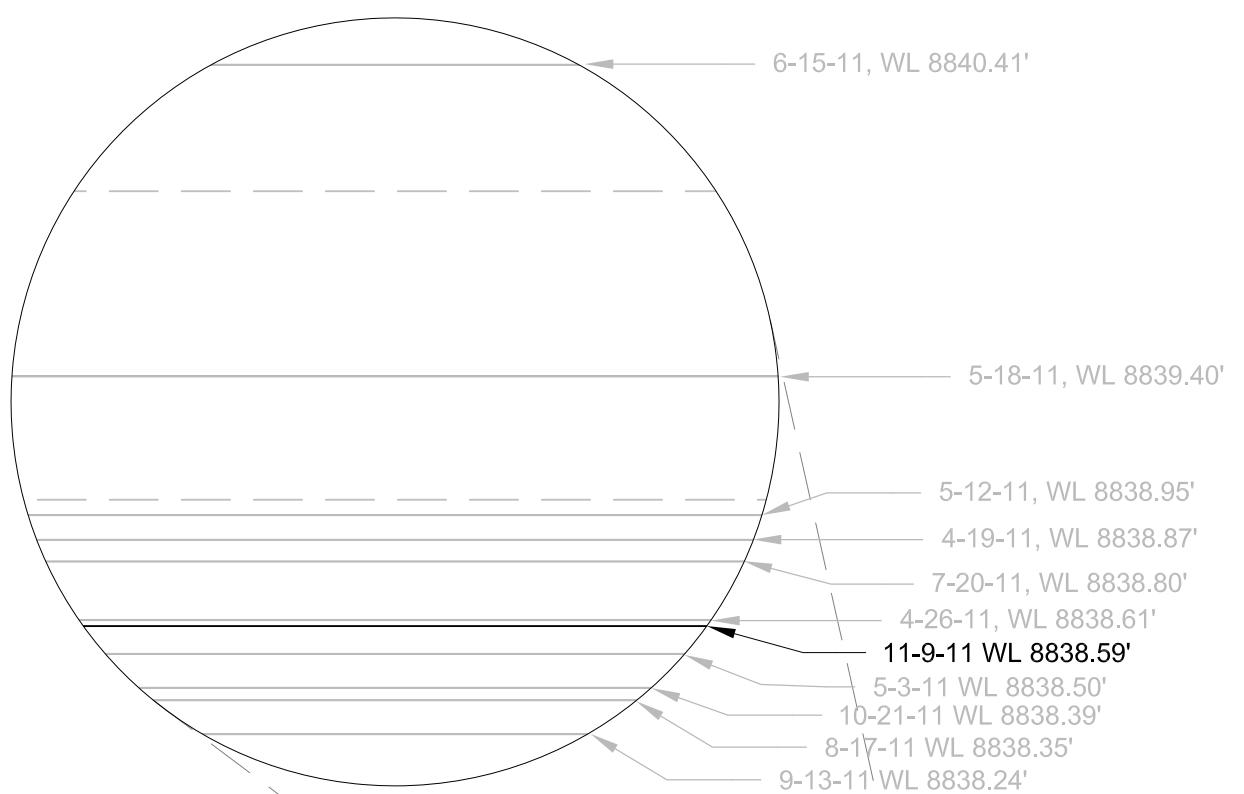
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rico Monitoring Wells/EH Vents
Pace Project No.: 60110318

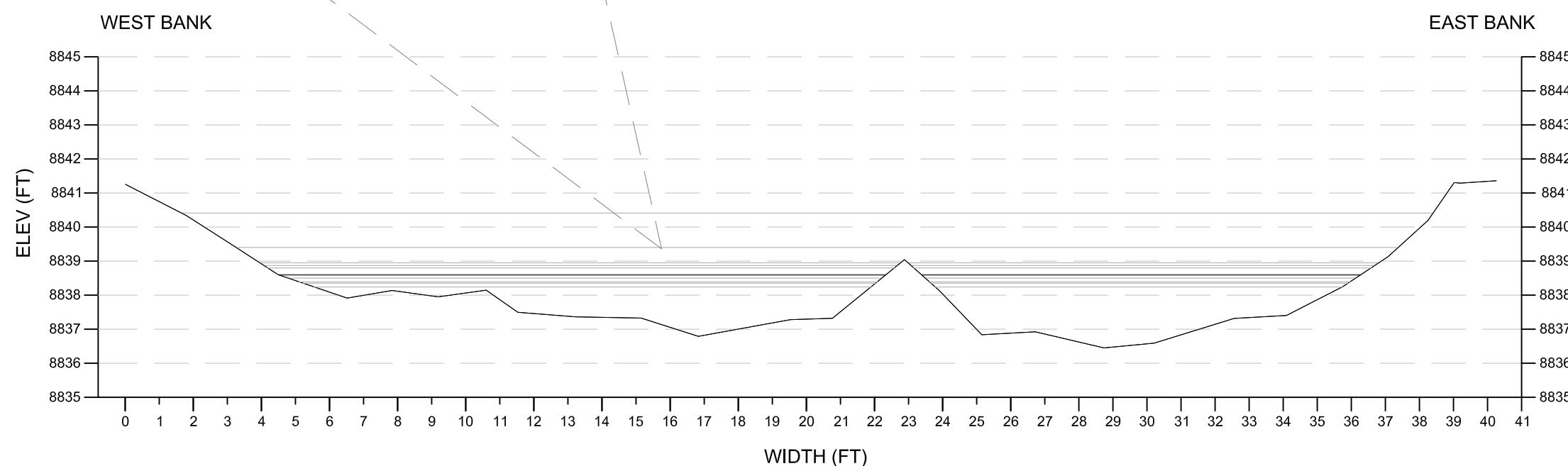
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110318003	MW-3 SHALLOW	EPA 300.0	WETA/18414		
60110318004	MW-3 DEEP	EPA 300.0	WETA/18414		
60110318005	MW-4 SHALLOW	EPA 300.0	WETA/18414		
60110318006	MW-4 DEEP	EPA 300.0	WETA/18414		
60110318007	MW-5 SHALLOW	EPA 300.0	WETA/18414		
60110318008	MW-5 DEEP	EPA 300.0	WETA/18414		
60110318009	MW-6 SHALLOW	EPA 300.0	WETA/18414		
60110318010	MW-6 DEEP	EPA 300.0	WETA/18414		
60110318011	EH-1	EPA 300.0	WETA/18414		
60110318012	EH-3	EPA 300.0	WETA/18414		
60110318013	EH-4	EPA 300.0	WETA/18414		
60110318014	EH-5	EPA 300.0	WETA/18414		
60110318001	MW-1 SHALLOW	SM 4500-CN-E	WETA/18367		
60110318002	MW-1 DEEP	SM 4500-CN-E	WETA/18367		
60110318003	MW-3 SHALLOW	SM 4500-CN-E	WETA/18367		
60110318004	MW-3 DEEP	SM 4500-CN-E	WETA/18367		
60110318005	MW-4 SHALLOW	SM 4500-CN-E	WETA/18367		
60110318006	MW-4 DEEP	SM 4500-CN-E	WETA/18367		
60110318007	MW-5 SHALLOW	SM 4500-CN-E	WETA/18367		
60110318008	MW-5 DEEP	SM 4500-CN-E	WETA/18367		
60110318009	MW-6 SHALLOW	SM 4500-CN-E	WETA/18367		
60110318010	MW-6 DEEP	SM 4500-CN-E	WETA/18367		
60110318011	EH-1	SM 4500-CN-E	WETA/18367		
60110318012	EH-3	SM 4500-CN-E	WETA/18367		
60110318013	EH-4	SM 4500-CN-E	WETA/18367		
60110318014	EH-5	SM 4500-CN-E	WETA/18367		

Appendix E

Flow Cross Sections



DR-1 CROSS SECTION



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General Notes		
Scale in Feet		
0	2	4
No.	Revision/Issue	Date

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

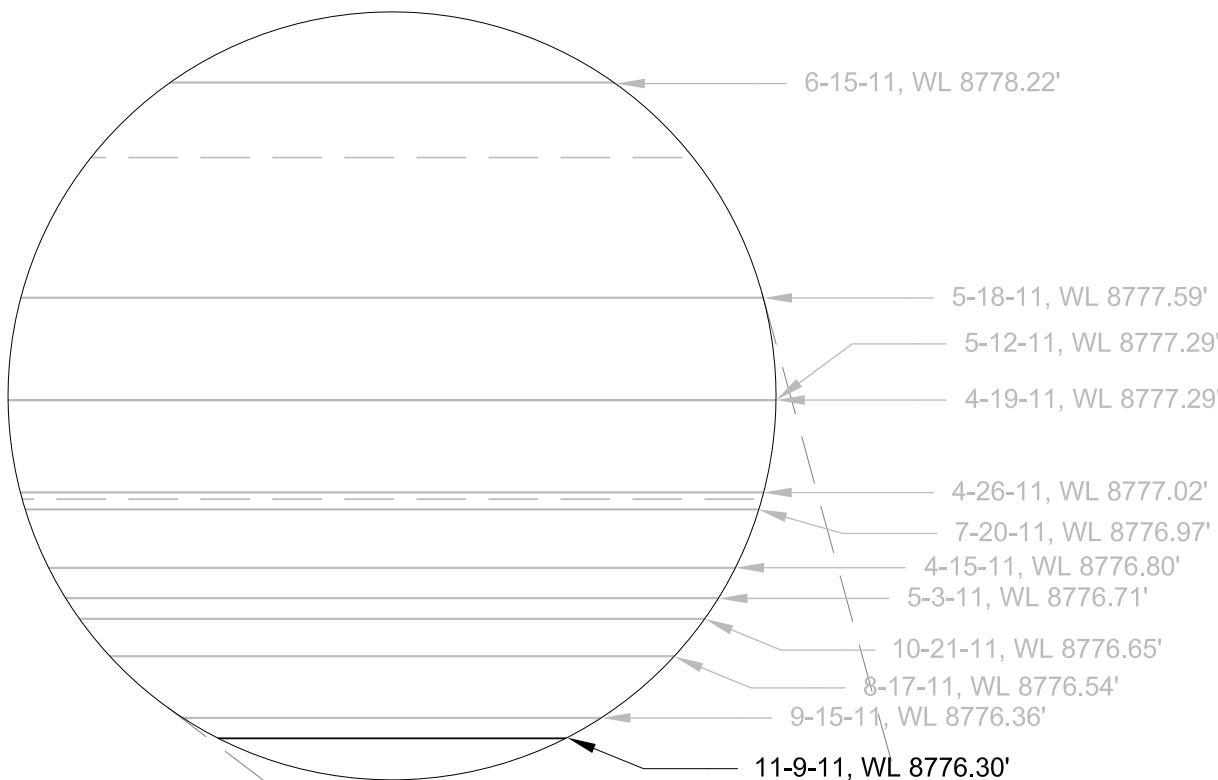
**RICO SURFACE
WATER SAMPLING**

**DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-1**

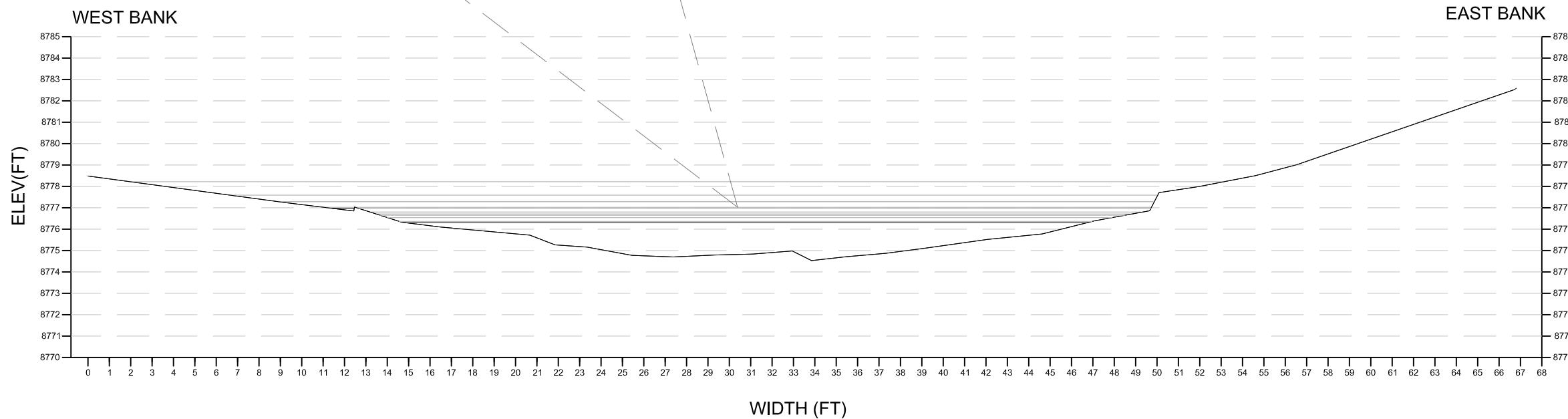
RICO, CO

Project	Figure
Date	9-NOV-2011
Scale	

3



DR-2 CROSS SECTION



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General Notes											
<i>[Large empty box for notes]</i>											
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<table border="1" style="width: 100%;"> <tr> <td>No.</td> <td>Revision/Issue</td> <td>Date</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>			No.	Revision/Issue	Date						
No.	Revision/Issue	Date									

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

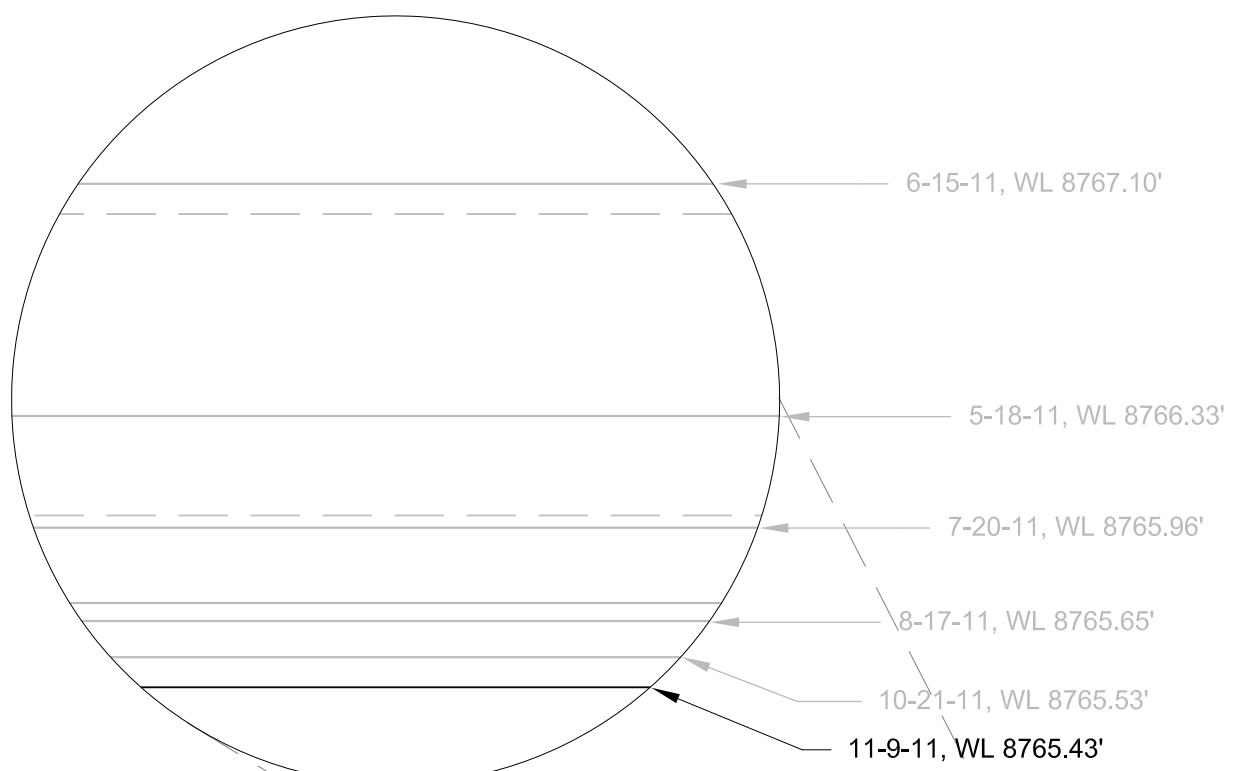
**RICO SURFACE
WATER SAMPLING**

**DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-2**

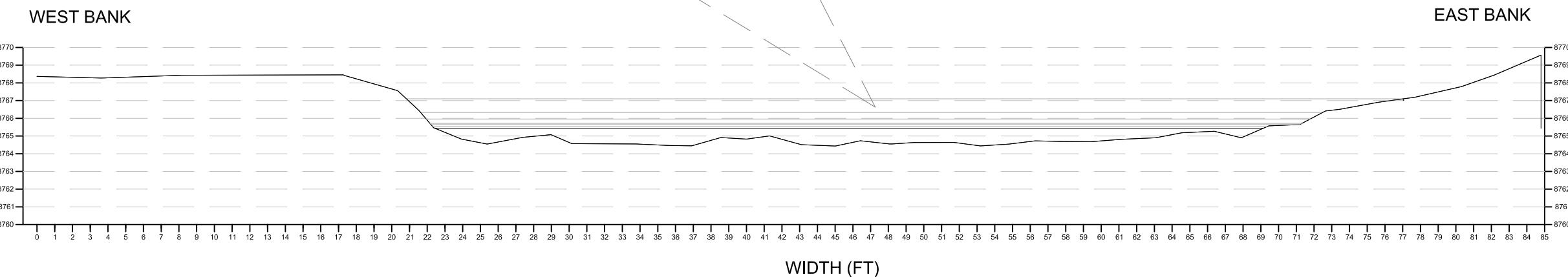
RICO, CO

Project	Figure
Date	9-NOV-2011
Scale	

5



DR-7 CROSS SECTION



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General Notes		
No.	Revision/Issue	Date

ATLANTIC RICHFIELD COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

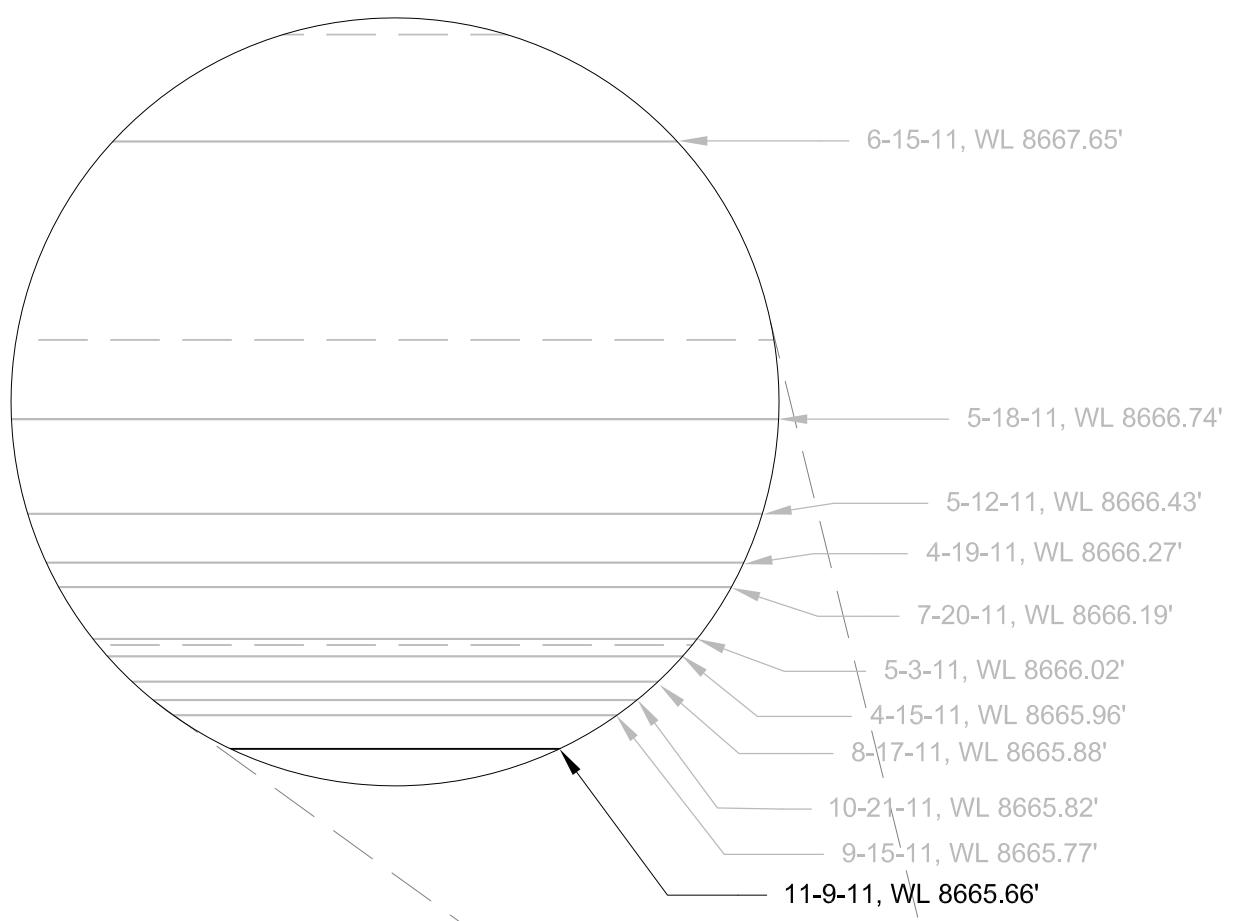
**RICO SURFACE
WATER SAMPLING**

**DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-7**

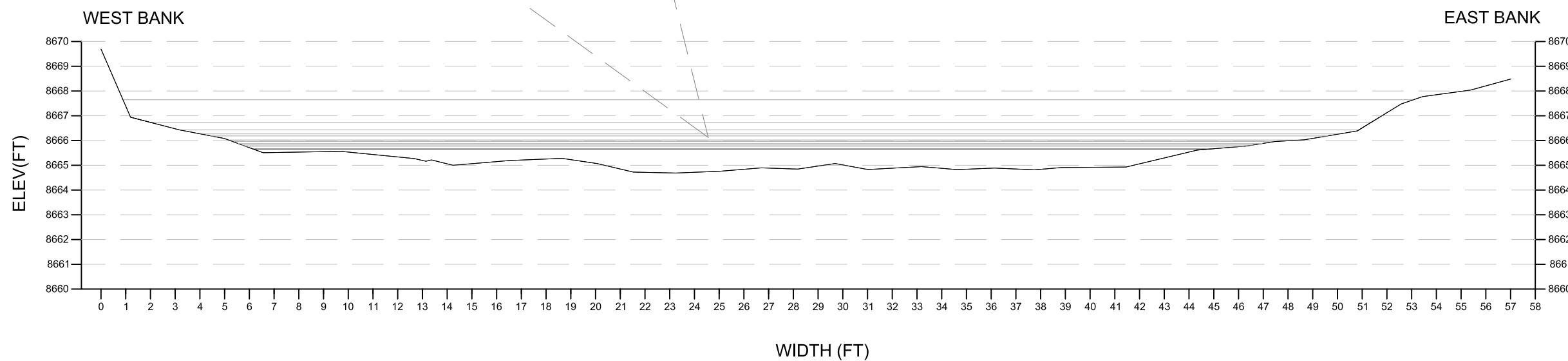
RICO, CO

Project	Figure
Date	9-NOV-2011
Scale	

6

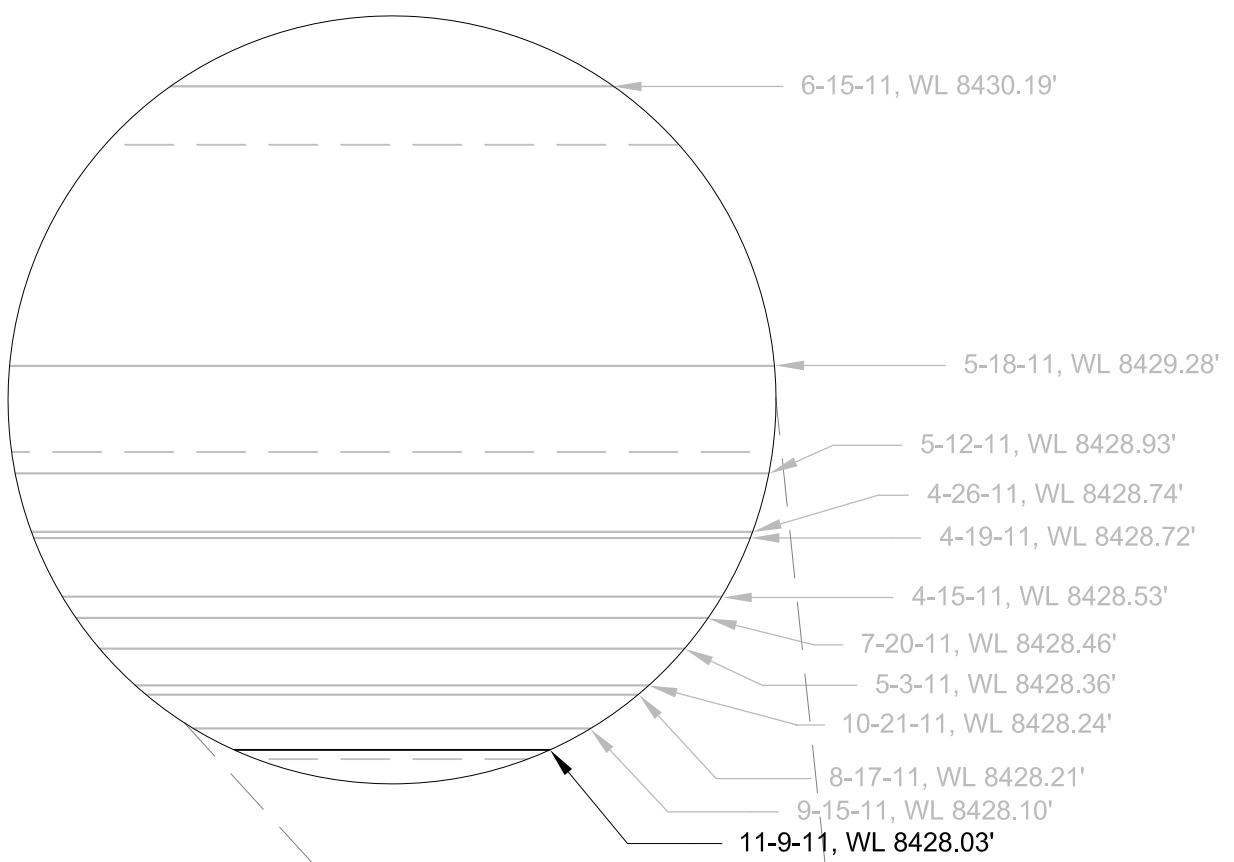


DR-4-SW CROSS SECTION

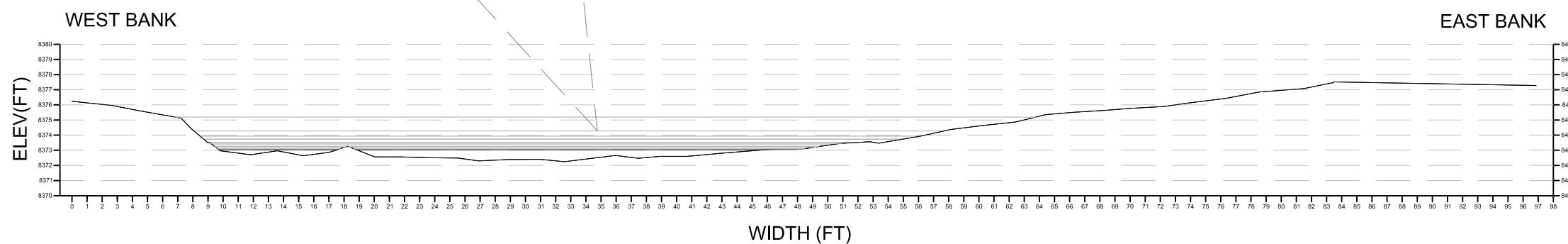


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SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes		
Scale in Feet 		
No.	Revision/Issue	Date
ATLANTIC RICHFIELD COMPANY		
 ANDERSON <small>ENGINEERING COMPANY, INC.</small>		
DRAWN BY: MAD ENGINEER: CS, MAD APPROVED:		
RICO SURFACE WATER SAMPLING DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-4-SW RICO, CO		
Project: Date: 9-NOV-2011 Scale:		Figure: 7



DR-G CROSS SECTION



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General Notes

Scale in Feet

A horizontal scale bar with tick marks at 0, 4.5, and 9. The text "Scale in Feet" is written above the bar.

No.	Revision / Issue	Date

ATLANTIC RICHFIELD
COMPANY



 ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

RICO SURFACE WATER SAMPLING

DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-G

RICO CO

Project	Figure
Date	9-NOV-2011
Scale	

Appendix F
Chain of Custody Records



A BP affiliated company

185090

Page 1 of 4

Chain of Custody Record

Project Name: Rico November 2011 Water Sampling
 BP BU/AR Region/Envos Segment:
 State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 10/25/11

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.:	Consultant/Contractor:
Address: <u>9608 Loiret Blvd</u>	BP/AR Facility Address:	Address:
<u>Lenexa, KS 66219</u>	Site Lat/Long:	
Lab PM: <u>Colleen Kopors</u>	California Global ID No.:	Consultant/Contractor Project No.:
Tele/Fax: <u>913-563-1407</u>	Envos Project No.:	Consultant/Contractor PM:
BP/AR EBM:	Provision or OOC (circle one)	Tele/Fax:
Address:	Phase/WBS:	Report Type & QC Level:
Tele/Fax:	Sub Phase/Task:	E-mail EDD To:
Lab Bottle Order No:	Cost Element:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Item No.	Sample Description	Date	Time	Matrix	Laboratory No.	No. of Containers	Preservative			Requested Analysis					Sample Point Lat/Long and Comments			
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	Al ₆ O ₁₁	Total Metals / Hardness	Dissolved Metals	Alk. / TSS / TDS	Sulfate	Granide	Salinity
1	DR-1 2BP2U2BF3N	11-10-11	15:00	X	001		X	X	X		X	X	X	X	X	X	16PBC	11-10-11
2	DR-2	11-10-11		X	002		X	X	X		X	X	X	X	X	X		
3	DR-3			X	003		X	X	X		X	X	X	X	X	X		
4	DR-4			X	004		X	X	X		X	X	X	X	X	X		
5	DR-5			X	005		X	X	X		X	X	X	X	X	X		
6	DR-6	V	V	X	006		X	X	X		X	X	X	X	X	X	V	
7																		
8																		
9																		
10																		

Sampler's Name: <u>Mark DeFriez</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>Anderson Engineering Co. Inc.</u>	<u>Mark DeFriez/210921 AECI</u>	<u>11-11-11</u>		<u>JULY 2011</u>	<u>11-15-103000</u>	
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

Special Instructions:

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 0°F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No



bp
A BP affiliated company

Page 2 of 4

Chain of Custody Record

185090

Project Name:

BP BU/AR Region/Envos

Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 10/25/11

On-site Time:

Temp:

Off-site Time:

Temp:

Sky Conditions:

Meteorological Events:

Wind Speed:

Direction:

Lab Name: Pace Analytical Services
Address: 9603 Loiret Blvd
Lenexa, KS 66219
Lab PM: Colleen Koporc
Tele/Fax: 913-563-1407

BP/AR Facility No.:

BP/AR Facility Address:

Site Lat/Long:

California Global ID No.:

Envos Project No.:

Provision or OOC (circle one)

Phase/WBS:

Sub Phase/Task:

Cost Element:

Consultant/Contractor:

Address:

Consultant/Contractor Project No.:

Consultant/Contractor PM:

Tele/Fax:

Report Type & QC Level:

E-mail EDD To:

Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Tele/Fax:

Lab Bottle Order No.:

Item No.	Sample Description	Date	Time	Matrix	Laboratory No.	No. of Containers	Preservative		Requested Analysis						Sample Point Lat/Long and Comments		
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NH ₄ OH	Total Metals / Dissolved Solids	Dissolved Alkalinity / Dissolved Sulfate	Craniide	Sulfide	
1	DR-7 2BP2U 1BP3N	11-10-11	1B35	X	007		X	X	X	X	X	X	X	X	X	BP3C	125
2	DR-8		11-10-11	X	008		X	X	X	X	X	X	X	X	X		
3	DR-4-SW			X	009		X	X	X	X	X	X	X	X	X		
4	DR-G			X	010		X	X	X	X	X	X	X	X	X		
5	FB			X	011		X	X	X	X	X	X	X	X	X		5
6																	
7																	
8																	
9																	
10																	

Sampler's Name: Mark DeFriez

Sampler's Company: Anderson Engineering Co. Inc.

Shipment Date:

Shipment Method:

Shipment Tracking No.:

Special Instructions:

Relinquished By / Affiliation

Mark DeFriez/2BP2U AEI

Date

11-11-11

Time

Accepted By / Affiliation

John R.

Date

11-15-11

Time

Custody Seals In Place: Yes / No

Temp Blank: Yes / No

Cooler Temp on Receipt: 16 °F/°C

Trip Blank: Yes / No

MS/MSD Sample Submitted: Yes / No

BP COC Rev. 5 10/11/2006

Laboratory Copy

Atlantic Richfield Company



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Page 3 of 4

185090

Chain of Custody Record

Project Name:

Rico November 2011 Water Sampling

BP BU/AR Region/Envos

Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

10/25/11

On-site Time:

Temp:

Off-site Time:

Temp:

Sky Conditions:

Meteorological Events:

Wind Speed:

Direction:

Lab Name: Pace Analytical Services
 Address: 9608 Loiret Blvd
 Lenexa, KS 66219
 Lab PM: Colleen Koporc
 Tele/Fax: 913-563-1407
 BP/AR EBM:
 Address:
 Tele/Fax:

BP/AR Facility No.:

BP/AR Facility Address:

Site Lat/Long:

California Global ID No.:

Envos Project No.:

Provision or OOC (circle one)

Phase/WBS:

Sub Phase/Task:

Cost Element:

Consultant/Contractor:

Address:

Consultant/Contractor Project No.:

Consultant/Contractor PM:

Tele/Fax:

Report Type & QC Level:

E-mail EDD To:

Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Lab Bottle Order No.:

Item No.	Sample Description	Date	Time	Matrix	Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NH ₄ OH	Total Metals / Hardness	Dissolved Metals	Alk./TSS/TDS	Sulfate	Chloride
1	GW-1 10/22/11 SP3C	11-10-11		X	012	X	X	X	X	X	X	X	X	X	X	X	10/11/11 SP3C
2	GW-3	11-10-11		X	013	X	X	X	X	X	X	X	X	X	X	X	
3	GW-4			X	014	X	X	X	X	X	X	X	X	X	X	X	
4	GW-5			X	015	X	X	X	X	X	X	X	X	X	X	X	
5	GW-6			X	016	X	X	X	X	X	X	X	X	X	X	X	
6																	
7																	
8																	
9																	
10																	

Sampler's Name: Mark Defriez

Sampler's Company: Anderson Engineering Co. Inc.

Shipment Date: 11-14-11

Shipment Method:

Shipment Tracking No.:

Special Instructions:

Relinquished By / Affiliation

Mark Defriez/21021 AECI

Date

11-11-11

Time

Accepted By / Affiliation

J.D. R

Date

11-15-11 CECU

Time

Custody Seals In Place: Yes / No

Temp Blank: Yes / No

Cooler Temp on Receipt: 24°F/C

Trip Blank: Yes / No

MS/MSD Sample Submitted: Yes / No



A BP affiliated company

185090

Chain of Custody Record

Project Name:

Rico November 2011 Water Sampling

BP BU/AR Region/Envos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 10/25/11

On-site Time:

Temp:

Off-site Time:

Temp:

Sky Conditions:

Meteorological Events:

Wind Speed:

Direction:

Lab Name: Price Analytical Services

Address: 9608 Laird Blvd
Lenexa, KS 66219

Lab PM: Colleen Koparc

Tele/Fax: 913-563-1407

BP/AR EBM:

Address:

Tele/Fax:

BP/AR Facility No.:

BP/AR Facility Address:

Site Lat/Long:

California Global ID No.:

Envos Project No.:

Provision or OOC (circle one)

Phase/WBS:

Sub Phase/Task:

Cost Element:

Consultant/Contractor:

Address:

Consultant/Contractor Project No.:

Consultant/Contractor PM:

Tele/Fax:

Report Type & QC Level:

E-mail EDD To:

Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Lab Bottle Order No.:

Matrix

Item No.	Sample Description	Date	Time	Soil/Solid	Water/Liquid	Air	Laboratory No.	Preservative	Requested Analysis							Sample Point Lat/Long and Comments				
									No. of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Total Metals / Dissolved Solids	Dissolved Metals	Tk. / TSS / TDS	Sulfate	Cyanide	Salt/Salinity
1	EB-1 2BP3U	11-10-11	11-10-11	BP3F	X		2BP3N at 018	X	X	X	X	X	X	X	X	X	1BP3C	-10		
2	EB-2 ↓	11-10-11	11-10-11		X			X	X		X	X	X	X	X	X				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Sampler's Name: Mark DeFriez

Sampler's Company: Anderson Engineering Co. Inc.

Shipment Date:

Shipment Method:

Shipment Tracking No.:

Special Instructions:

Relinquished By / Affiliation

Date

Time

Accepted By / Affiliation

Date

Time

Mark DeFriez/21021 AECI

11-11-11

Gul R

11-15-11 900

Custody Seals In Place: Yes / No

Temp Blank: Yes / No

Cooler Temp on Receipt: 37 °F/C

Trip Blank: Yes / No

MS/MSD Sample Submitted: Yes / No

Sample Condition Upon Receipt – ESI Tech Specs

Client Name: BP ANDERSON ENR

Project #: 60110316

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Optional 11/29
Proj Due Date:
Proj Name: Pico November 2011

Tracking #: 71554173667
1034 Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other ZIPLOCK

Thermometer Used: T-191 / T-194

Type of Ice: Wet Blue None Samples received on ice, cooling process has begun.

Cooler Temperature: 3.2, 0.4, 1.6, 2.4

(circle one)

Date and initials of person examining contents: BB 11.15.11

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	* THERE WAS NO TIMES ON EITHER THE SAMPLE OR COC
-Includes date/time/ID/analyses Matrix:	<u>WT</u>	13.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed <u>BB</u> Lot # of added preservative <u>11102</u>
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution:	Copy COC to Client? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Field Data Required? <input type="checkbox"/> Y / <input type="checkbox"/> N
Person Contacted:	Date/Time:	Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.
Comments/ Resolution:		Start: <u>1017</u> Start: _____ End: <u>1030</u> End: _____ Temp: _____ Temp: _____
Project Manager Review: <u>OMK</u>	Date: <u>11/16/11</u>	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Atlantic Richfield Company



A BP affiliated company

184805

Page 1 of 4

Chain of Custody Record

Project Name: Rico Monitoring Wells / EH Vents, Nov 2011
 BP BU/AR Region/Envos Segment:
 State or Lead Regulatory Agency:
 Requested Due Date (mm/dd/yy): 11/25/11

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>				BP/AR Facility No.:				Consultant/Contractor:				
Address: <u>9608 Loiret Blvd Lenexa, KS 66219</u>				BP/AR Facility Address:				Address:				
Lab PM: <u>Colleen Koparc</u>				Site Lat/Long:				Consultant/Contractor Project No.:				
Tele/Fax: <u>913-563-1407</u>				California Global ID No.:				Consultant/Contractor PM:				
BP/AR EBM:				Envos Project No.:				Tele/Fax:				
Address:				Provision or OOC (circle one)				Report Type & QC Level:				
Tele/Fax:				Phase/WBS:				E-mail EDD To:				
Lab Bottle Order No:				Sub Phase/Task:				Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)				
Item No.	Sample Description	DATE	TIME	Matrix	Laboratory No.	No. of Containers	Preservative		Requested Analysis		Salinity	Comments
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl		
1	MW-1 SHALLOW	11-11-11	18P2U	X 18P3U 18P3A 18P3F			X	X	X	X X X X X X 18P3C		001
2	MW-1 DEEP			X			X	X	X	X X X X X X		002
3	MW-2 SHALLOW						X	X	X	X X X X X X		
4	MW-2 DEEP			X			X	X	X	X X X X X X		
5	MW-3 SHALLOW			X			X	X	X	X X X X X X		003
6	MW-3 DEEP			X			X	X	X	X X X X X X		004
7				X			X	X	X			
8				X			X	X	X			
9				X			X	X	X			
10				X			X	X	X			

6010318

Sampler's Name: <u>Mark DeFries</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>Anderson Engineering Co., Inc.</u>	<u>Mark DeFries/2/2011/AECI</u>	<u>11-14-11</u>	<u>4:30pm</u>	<u>Phil N</u>	<u>11-15-11</u>	<u>0700</u>
Shipment Date: <u>11-14-11</u>						
Shipment Method:						
Shipment Tracking No:						

Special Instructions:

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 13°F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Laboratory Copy



A BP affiliated company

Chain of Custody Record

184805

Page 2 of 4

Project Name:

BP BU/AR Region/Enfos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

11/25/11

On-site Time:

Temp:

Off-site Time:

Temp:

Sky Conditions:

Meteorological Events:

Wind Speed:

Direction:

Lab Name: Pace Analytical Services

Address: 9608 Laird Blvd
Lenexa, KS 66219

Lab PM: Colleen Koparc

Tele/Fax: 913-563-1407

BP/AR EBM:

Address:

Tele/Fax:

BP/AR Facility No.:

BP/AR Facility Address:

Site Lat/Long:

California Global ID No.:

Enfos Project No.:

Provision or OOC (circle one)

Phase/WBS:

Sub Phase/Task:

Cost Element:

Consultant/Contractor:

Address:

Consultant/Contractor Project No.:

Consultant/Contractor PM:

Tele/Fax:

Report Type & QC Level:

E-mail EDD To:

Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Lab Bottle Order No.:

Item No.	Sample Description	DATE	TIME	Soil/Solid	Water/Liquid	Air	Matrix	Laboratory No.	No. of Containers	Preservative				Requested Analysis				Comments	
										Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals/ Chlorides	Dissolved Metals	Alkalinity	Crustal
1	MW-4 SHALLOW	11-11-11	10P3U	X	1BP3U	1BP3F	1BP3N			X	X			X	X	X	X	1BP3C	005
2	MW-4 DEEP			X						X	X			X	X	X	X		006
3	MW-5 SHALLOW			X						X	X			X	X	X	X		007
4	MW-5 DEEP			X						X	X			X	X	X	X		008
5	MW-6 SHALLOW			X						X	X			X	X	X	X		009
6	MW-6 DEEP			X		X				X	X			X	X	X	X		010
7																			
8																			
9																			
10																			

Sampler's Name: Mark DeFriez

Sampler's Company: Anderson Engineering Co., Inc.

Shipment Date: 11-11-11

Shipment Method:

Shipment Tracking No.:

Special Instructions:

Relinquished By / Affiliation

Mark DeFriez/2227/AECI

Date

Time

Accepted By / Affiliation

Date

Time

11/14/11

4:30

Juli A

11-15-11

0900

Custody Seals In Place: Yes / No

Temp Blank: Yes / No

Cooler Temp on Receipt:

°F/C

Trip Blank: Yes / No

MS/MSD Sample Submitted: Yes / No

Laboratory Copy



185091

Page 3 of 4

Chain of Custody Record

Project Name: Rico Monitoring Wells / EH Vents, Nov 2011
 BP BU/AR Region/Envos Segment:
 State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 11/25/11

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: Pace Analytical Services
 Address: 9608 Loiret Blvd
Lenexa, KS 66219
 Lab PM: Colleen Kaparc
 Tele/Fax: 913-563-1407
 BP/AR EBM:
 Address:
 Tele/Fax:

BP/AR Facility No.:	Consultant/Contractor:
BP/AR Facility Address:	Address:
Site Lat/Long:	
California Global ID No.:	Consultant/Contractor Project No.:
Envos Project No.:	Consultant/Contractor PM:
Provision or OOC (circle one)	Tele/Fax:
Phase/WBS:	Report Type & QC Level:
Sub Phase/Task:	E-mail EDD To:
Cost Element:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Lab Bottle Order No:

Item No.	Sample Description	Date	Time	Soil/Solid	Water/Liquid	Matrix	Laboratory No.	No. of Containers	Preservative				Requested Analysis				Go/10318	Sample Point Lat/Long and Comments		
									Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals / Hardness	Dissolved Metals	Alkalinity / TDS / Sulfate	Cyanide	Salinity	
1	EH-1 18P2U 18P3U	11-10-11	18P3N	X	18P3F	18P3C	18P3C	5	X	X			X	X	X	X	X			01
2	EH-3	11-10-11		X			18P3C	5	X	X			X	X	X	X	X			012
3	EH-4	11-10-11		X			18P3C	5	X	X			X	X	X	X	X			013
4	EH-5	11-10-11		X			18P3C	5	X	X			X	X	X	X	X			014
5	AD-2	10-28-11	18P2	X			18P3C	2		X					X	X				015
6	AD-2a	10-28-11	18P2	X			18P3C	2			X				X	X				016
7	AD-2b	10-28-11	18P2	X			18P3C	2			X				X	X				017
8																				
9																				
10																				

Sampler's Name: Mark DeFriez

Sampler's Company: Anderson Engineering Co., Inc.

Shipment Date: 11-14-11

Shipment Method:

Shipment Tracking No:

Special Instructions:

Relinquished By / Affiliation

Mark DeFriez / ZL P-EP / AEI

Date 11-14-11 Time 4:30 pm

Accepted By / Affiliation

Julin

Date 11-15-11 Time 09:00

Custody Seals In Place: Yes / No

Temp Blank: Yes / No

Cooler Temp on Receipt: 68 °F/C

Trip Blank: Yes / No

MS/MSD Sample Submitted: Yes / No

Laboratory Copy

Sample Condition Upon Receipt – ESI Tech Specs

Client Name: BP ANDERSON ENA

Project #: 60110316

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Optional

11/22
Tracking #: 795541731058 875627717020 Pace Shipping Label Used? Yes No

Proj Due Date:

Proj Name: Rico Mon wells
Custody Seal on Cooler Box Present? Yes No Seals intact? Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Other ZIPLOCK
Thermometer Used: T-191 / T-194
Type of Ice: Wet Blue None Samples received on ice, cooling process has begun.
(circle one)
Cooler Temperature: 13, 11, 6, 2

Temperature should be above freezing to 6°C

Date and initials of person examining
contents: B 11/15/11

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace containers used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	* NO TIMES ON CARRIER SAMPLES OR CCC
-Includes date/time/ID/analyses Matrix:	<u>WT</u>	13.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>EX-3 BP3C IN pH=10.5 2mL NaOH ADDED FINAL pH = 12</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed Lot # of added preservative
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Comments/ Resolution: _____

Start: 1145 Start:End: 1200 End:

Temp: Temp:

Project Manager Review: QBTDate: 11/16/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Appendix G

Field Photos

October 2011 Field Photos



Cross Section at Station DR-1



Cross Section at Station DR-5

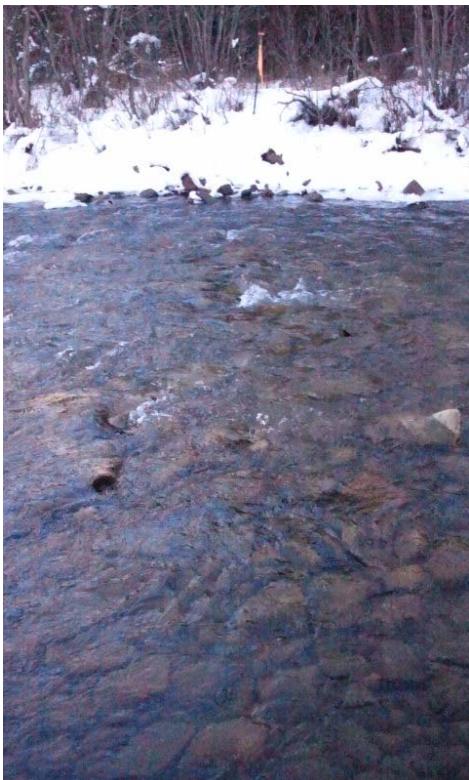


Cross Section at Station DR-2



Cross Section at Station DR-7

October 2011 Field Photos



Cross Section at Station DR-4-SW



Cross Section at Station DR-G

Appendix H
Field Log Book Records

11/9/11

DR-G

BM EL 2 555

WL EL 6 80

Velocities: 0.5 8' E Bank

0.4

East

0.6



1.0

West

1.2

1.1

1.3

0.7

0.8

0.6

0.5

0.7 6' W Bank

pH 7.30

T 0.3°C

DO 2.78 ppm EC 563 μS

collected 11-9-11 @ 4:30pm

photo # 2

11/9/11

DR-4-SW

BM EL 2 44

WL EL 5 27

1.3 5' E Bank

Velocities: 0.3

0.8 West

1.0

1.3

1.0

1.2

East

0.7

1.4

1.2

0.2

1.4

1.2

0.7

12' W Bank

Field Parameters

pH 7.84 T 1.4°C

DO 2.62 ppm EC 445 μS

sample collected 11-9-11 @ 4pm

photo # 1

11/9/11

DR-3A

BM EL .6

WL EL $\approx 5' 5"$

Velocities 0.4 10' ice E Bank

0.8

0.8

0.6

1.4

1.2

1.0

1.5

0.7

0.6

0.7

1.2

0.7

0.2 5' ice W. Bank

11/9/11

DR-2A

BM EL $\underline{4' 8"$

WL EL $\underline{10' 5"$

Velocities: 0.6

0.5

0.9

1.1

1.2

0.7

0.9

2.3

1.0

2.1

1.3

1.8

1.0

0.4

1.0

0.9

1.0 East Bank Frozen

~~DR-7~~ 11/9/11

DR-7

BM EL

7⁰²

WL EL

11¹⁶

Velocities (East-West):

0.4 1.1

0.4 1.0

0.5 0.5

1.1

1.2 pH 7.10

1.7 T 2.0°C

0.7 EC 610 μS

0.9 DO 2.54 ppm

1.2

0.7 Sample Collected

1.0 11-10-11 @ 08:00

0.6

2.2 photo # 3

2.0

0.9

0.5

1.3

0.8

~~DR~~ 11/9/11

DR-2

BM EL 4⁵⁰

WL EL 10⁷⁹

Velocities (East-West):

0.1

0.1

0.5

0.7

1.0

1.0

1.0

0.6

1.0

1.0

1.2

0.7

0.4

0.7

0.4

0.2

pH 8.01

T 0.5°C

EC 520 μS

DO 2.80 ppm

Sample Collected
11-10-11 @ 9:05 am

photo # 5

11/9/11

DR-S

BM EL

5¹⁸

WL EL

7⁸⁴

Velocities (~~East-West~~
West-East)
m/s

pH 7.09

T 0.5°C

EC 1175 μS

DO 2.80 ppm

Sample Collected 11-10-11 @ 0950

photo # 4

11-9-11

DR-1A

BM EL

6⁵⁸

WL EL

8⁶⁰

Velocities (East - West)

River Full of ice

11-9-11

DR-1

BM EL

5^{±3}

WL EL

8^{±0}

Velocities (East-West),

1.5

1.4

1.0

0.6

0.8

1.6

1.3

12' rec west Bank

pH 7.87

T 0.9°C

EC 283 μS

DO 2.65 ppm

Sample Collected 11-10-11 @

photo # 6

11-10-11

DR-3 / DR-8

North flame / Sample Duplicate

pH 7.20

T 16.8 °C

EC 1156 μS

DO 1.13 ppm

Sample Collected at 11-10-11

@ 9:45 am

11-10-11

FB

pH 9.38

T 3.1 °C

DO 2.31 ppm

EC 0.0 μS

Collected 11-10-11 @ 6825

11-10-11

DR-4 → Rnd 1S discharge

pH 6.78

T 8.9°C

EC 1107 uS

DO 1.73 448 ppm

Sample collected 11-10-11 @ 10:05am

11-10-11

DR-6 - St. Louis outfall

pH 7.49

T 1.3°C

EC 1190 uS

DO 2.65 ppm

Sample Collected 11-10-11
④ 0835

EH-5

pH 6.83 T 37.0°C
EC 3.36 mS DO 2.44 ppm

Sample Collected:

full sweep 11:10-11 P 4:20pm

Rare earth

Isotopes

11-11-11

MW-4 Shallow

Depth 16.21'

pH 7.69 T 11.8°C

EC 1325 mS DO 6.44 ppm

Collected: 9:20 am

MW-4 Deep

Depth 16.45'

pH 6.34 T 10.3°C

EC 1197 mS DO 5.62 ppm

Collected: 9:45 am

11-11-11

MW-1 SHALLOW

Depth 6.24'

pH 7.38 T 17.2°C

EC 1013 μS DO 4.30 ppm

Collected: 10:40 am

11-11-11

MW-2 SHALLOW

Depth

pH 7.38 T

EC 1085 μS DO 3.64

Collected 11:15 am

MW-1 DEEP

Depth 8.47'

pH 7.25 T 13.2°C

EC 932 μS DO 4.13 ppm

Collected 10:45 am

MW-2 DEEP

Depth 10.09'

pH 7.36 T 14.1°C

EC 1085 μS DO 3.64

Collected 11:23 am

11-11-11

MW-6 SHALLOW

Depth 22.84'

pH 6.94 T 11.3°C

EC 1971 μS DO 5.43 ppm

Collected 12:05 pm

11-11-11

MW-5 SHALLOW

Depth 15.86'

pH 5.94 T 12.2°C

EC 2.06 mS DO 4.78 ppm

Collected 12:40 pm

MW-6 DEEP

Depth 22.74'

pH 7.10 T 10.9°C

EC 750 μS DO 4.77 ppm

Collected 12:10 pm

MW-5 DEEP

Depth 17.06'

pH 6.71 T 10.3°C

EC 1121 μS DO 4.70 ppm

Collected 1:00 pm

1-11-11

MW-3 shallow
No Water,
CNO

MW-3 Deep

Depth 10.42'

pH 7.10

T 13.6°

EC 1126 mS

DO 3.91 ppm

Connected 1:28 pm

Appendix I

North Flume Ultrasonic Meter Data with Flowrates

Date, Time	Reading	Parameter	Depth to water (ft)	Depth from sensor to Bottom of Flume (ft)	Depth of Flow (ft)	Depth of Flow (in)	Flowrate (cfs)	Flowrate (gpm)
11/1/2011 0:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 0:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 0:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 0:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 1:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 1:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 1:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 1:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 2:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 2:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 2:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 2:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 3:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 3:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 3:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 3:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 4:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 4:15	8.56	Level	1.44	2.073	0.633	7.595	1.54	689.8
11/1/2011 4:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 4:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 5:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 5:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 5:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 5:45	8.56	Level	1.44	2.073	0.633	7.595	1.54	689.8
11/1/2011 6:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 6:15	8.56	Level	1.44	2.073	0.633	7.595	1.54	689.8
11/1/2011 6:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 6:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 7:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 7:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 7:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 7:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 8:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 8:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 8:30	8.56	Level	1.44	2.073	0.633	7.595	1.54	689.8
11/1/2011 8:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 9:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 9:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 9:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 9:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 10:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 10:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 10:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 10:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011 11:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7

Date	Time	Depth (m)	Temperature (°C)	Salinity (‰)	Density (σ₀)	Pressure (hPa)	Wind Speed (m/s)		
11/1/2011	11:15	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	11:30	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	11:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	12:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	12:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	12:30	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	12:45	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	13:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	13:15	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	13:30	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	13:45	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	14:00	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	14:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	14:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	14:45	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	15:00	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	15:15	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	15:30	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	15:45	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	16:00	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	16:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	16:30	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	16:45	8.64	Level	1.36	2.073	0.713	8.555	1.84	825.7
11/1/2011	17:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	17:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	17:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	17:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	18:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	18:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	18:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	18:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	19:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	19:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	19:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	19:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	20:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	20:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	20:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	20:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	21:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	21:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	21:30	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	21:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	22:00	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	22:15	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7
11/1/2011	22:30	8.56	Level	1.44	2.073	0.633	7.595	1.54	689.8
11/1/2011	22:45	8.6	Level	1.4	2.073	0.673	8.075	1.69	756.7

Date	Time	Parameter	Value	Min	Max	Avg	Total
11/9/2011	19:00	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	19:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	19:30	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	19:45	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	20:00	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	20:15	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	20:30	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	20:45	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	21:00	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	21:15	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	21:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	21:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	22:00	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/9/2011	22:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	22:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	22:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	23:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	23:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	23:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/9/2011	23:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	0:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	0:15	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/10/2011	0:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	0:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	1:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	1:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	1:30	8.55 Level	1.45	2.073	0.623	7.475	1.50
11/10/2011	1:45	8.55 Level	1.45	2.073	0.623	7.475	1.50
11/10/2011	2:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	2:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	2:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	2:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	3:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	3:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	3:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	3:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	4:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	4:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	4:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	4:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	5:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	5:15	8.6 Level	1.4	2.073	0.673	8.075	1.69
11/10/2011	5:30	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	5:45	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	6:00	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	6:15	8.56 Level	1.44	2.073	0.633	7.595	1.54
11/10/2011	6:30	8.56 Level	1.44	2.073	0.633	7.595	1.54

Time	Parameter	Value	Min	Max	Mean	Std Dev	Count
11/13/2011 17:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 17:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 17:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 17:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 18:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 18:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 18:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 18:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/13/2011 19:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/13/2011 19:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 19:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 19:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 20:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 20:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 20:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 20:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 21:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 21:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 21:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 21:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 22:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 22:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 22:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 22:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 23:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 23:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 23:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/13/2011 23:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 0:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 0:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 0:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 0:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 1:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 1:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 1:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 1:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 2:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 2:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 2:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 2:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 3:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 3:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 3:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 3:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 4:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 4:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 4:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8

Time	Parameter	Value	Min	Max	Mean	Std Dev	Series
11/14/2011 16:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 16:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 17:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 17:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 17:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 17:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 18:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 18:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 18:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 18:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 19:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 19:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 19:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 19:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 20:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 20:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 20:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 20:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 21:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 21:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 21:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 21:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 22:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 22:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 22:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 22:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 23:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 23:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/14/2011 23:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/14/2011 23:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 0:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 0:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 0:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 0:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 1:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 1:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 1:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 1:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 2:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 2:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 2:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 2:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 3:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 3:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 3:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 3:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 4:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8

Time	Parameter	Value	Min	Max	Mean	Std Dev	Series
11/15/2011 16:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 16:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 16:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 16:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 17:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 17:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 17:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 17:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 18:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 18:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 18:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 18:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 19:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 19:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 19:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 19:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 20:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 20:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 20:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 20:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 21:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 21:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 21:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 21:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 22:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 22:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 22:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 22:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 23:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 23:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/15/2011 23:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/15/2011 23:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 0:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 0:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 0:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 0:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 1:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 1:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 1:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 1:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 2:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 2:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 2:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 2:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 3:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 3:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 3:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7

11/16/2011 3:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 4:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 4:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 4:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 4:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 5:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 5:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 5:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 5:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 6:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 6:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 6:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 6:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 7:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 7:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 7:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 7:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 8:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 8:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 8:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 8:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 9:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 9:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 9:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 9:45	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 10:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 10:15	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 10:30	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8
11/16/2011 10:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 11:00	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 11:15	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 11:30	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 11:45	8.6 Level	1.4	2.073	0.673	8.075	1.69	756.7
11/16/2011 12:00	8.56 Level	1.44	2.073	0.633	7.595	1.54	689.8

Appendix H

South Flume Orpheus Mini Data with Flowrates

Date	Time	Depth from top of flume to water (ft)	Depth of Flume Total (ft)	Depth of Flow (ft)	Flowrate (cfs)	Flowrate (gpm)
11/1/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/1/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/1/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/1/2011	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/1/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/1/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/1/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/1/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/1/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/1/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/1/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/1/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/1/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/1/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/1/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/1/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/1/2011	11:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	12:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	1:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/2/2011	2:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	3:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	4:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/2/2011	5:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	6:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	7:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	8:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/2/2011	10:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/2/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/2/2011	12:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/2/2011	8:00:00 PM	1.91	2.5	0.59	1.38	620.4

11/2/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/2/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/2/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/3/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/3/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/3/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/3/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/3/2011	12:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/3/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/3/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/3/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/4/2011	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/4/2011	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/4/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/4/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6

11/4/2011	8:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/4/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/4/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/5/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/5/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/5/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/5/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/5/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/5/2011	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/5/2011	6:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/5/2011	7:00:00 AM	1.88	2.5	0.62	1.49	668.7
11/5/2011	8:00:00 AM	1.87	2.5	0.63	1.53	685.0
11/5/2011	9:00:00 AM	1.87	2.5	0.63	1.53	685.0
11/5/2011	10:00:00 AM	1.86	2.5	0.64	1.56	701.5
11/5/2011	11:00:00 AM	1.86	2.5	0.64	1.56	701.5
11/5/2011	12:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	1:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	2:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	3:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	4:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	5:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	6:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	7:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	8:00:00 PM	1.87	2.5	0.63	1.53	685.0
11/5/2011	9:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/5/2011	10:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/5/2011	11:00:00 PM	1.89	2.5	0.61	1.45	652.4
11/6/2011	12:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/6/2011	1:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/6/2011	2:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/6/2011	3:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/6/2011	4:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/6/2011	5:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/6/2011	6:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/6/2011	7:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/6/2011	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/6/2011	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/6/2011	10:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/6/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/6/2011	12:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/6/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/6/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/6/2011	3:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/6/2011	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/6/2011	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/6/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6

11/6/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/6/2011	8:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/6/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/6/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/6/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/7/2011	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/7/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/7/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/7/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/7/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/7/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/7/2011	6:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/7/2011	7:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/7/2011	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/7/2011	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/7/2011	10:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/7/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/7/2011	12:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/7/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/7/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/7/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/7/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/7/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/7/2011	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/7/2011	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/7/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/7/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/7/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/7/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/8/2011	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/8/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	4:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/8/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/8/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/8/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/8/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/8/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6

11/8/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/8/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/8/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/8/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/9/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/9/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/9/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/9/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/9/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/9/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/9/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/9/2011	8:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/9/2011	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
11/9/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/9/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/9/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/9/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/9/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/9/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/10/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/10/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/10/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/10/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/10/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/10/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/10/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6

11/10/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/10/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/10/2011	10:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/10/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/11/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/11/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/11/2011	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/11/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/11/2011	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/11/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	9:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/11/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/11/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/12/2011	1:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/12/2011	4:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	6:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	7:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/12/2011	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/12/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/12/2011	12:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/12/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/12/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/12/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6

11/12/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/12/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/12/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/13/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/13/2011	6:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/13/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/13/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/13/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/13/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/13/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/13/2011	2:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/13/2011	3:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/13/2011	4:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/13/2011	5:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/13/2011	6:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/13/2011	7:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/13/2011	8:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/13/2011	9:00:00 PM	1.88	2.5	0.62	1.49	668.7
11/13/2011	10:00:00 PM	1.89	2.5	0.61	1.45	652.4
11/13/2011	11:00:00 PM	1.89	2.5	0.61	1.45	652.4
11/14/2011	12:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/14/2011	1:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/14/2011	2:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/14/2011	3:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/14/2011	4:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/14/2011	5:00:00 AM	1.89	2.5	0.61	1.45	652.4
11/14/2011	6:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/14/2011	7:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/14/2011	8:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/14/2011	9:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/14/2011	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/14/2011	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/14/2011	12:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4

11/14/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	8:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	9:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	10:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/14/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/15/2011	1:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/15/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/15/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/15/2011	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/15/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/15/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/15/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/15/2011	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/15/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/15/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/15/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/16/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/16/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/16/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/16/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9

11/16/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/16/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/16/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/17/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/17/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/17/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/17/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/17/2011	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/17/2011	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/17/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/18/2011	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/18/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9

11/18/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/18/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/18/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/18/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/19/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/19/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/19/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/19/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/19/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/19/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/19/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/20/2011	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/20/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/20/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9

11/20/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/20/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	7:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/20/2011	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/20/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/20/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/21/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	5:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/21/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/21/2011	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/21/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/21/2011	10:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/21/2011	11:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/21/2011	12:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/21/2011	1:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/21/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/21/2011	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/21/2011	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/21/2011	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/21/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/21/2011	7:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/21/2011	8:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/21/2011	9:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/21/2011	10:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/21/2011	11:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/22/2011	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/22/2011	1:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/22/2011	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/22/2011	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/22/2011	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/22/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/22/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/22/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/22/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/22/2011	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/22/2011	10:00:00 AM	1.92	2.5	0.58	1.35	604.6

11/22/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/22/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/22/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/22/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/22/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	12:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/23/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/23/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/23/2011	4:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/23/2011	6:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	7:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	8:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	9:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/23/2011	11:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/23/2011	12:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/23/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	3:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/23/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/23/2011	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/23/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/24/2011	1:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	4:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	5:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	6:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	7:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/24/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/24/2011	9:00:00 AM	1.94	2.5	0.56	1.28	573.4

11/24/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/24/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/24/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	5:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/24/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	7:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/24/2011	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/24/2011	9:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/24/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/24/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/25/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/25/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/25/2011	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/25/2011	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/25/2011	4:00:00 AM	1.9	2.5	0.60	1.42	636.4
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11/25/2011	6:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/25/2011	7:00:00 AM	1.9	2.5	0.60	1.42	636.4
11/25/2011	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/25/2011	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/25/2011	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
11/25/2011	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/25/2011	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/25/2011	1:00:00 PM	1.9	2.5	0.60	1.42	636.4
11/25/2011	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/25/2011	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/25/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/25/2011	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
11/25/2011	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/25/2011	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/25/2011	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/25/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/25/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/25/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/26/2011	12:00:00 AM	1.94	2.5	0.56	1.28	573.4
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11/26/2011	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/26/2011	4:00:00 AM	1.95	2.5	0.55	1.24	558.0
11/26/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/26/2011	6:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/26/2011	7:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/26/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9

11/26/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/26/2011	10:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/26/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/26/2011	12:00:00 PM	1.94	2.5	0.56	1.28	573.4
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11/26/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/26/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
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11/26/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/26/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/26/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/26/2011	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/26/2011	9:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/26/2011	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/26/2011	11:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/27/2011	12:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/27/2011	1:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/27/2011	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/27/2011	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/27/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	8:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/27/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/27/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/27/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/27/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/27/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
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11/27/2011	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/27/2011	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9

11/28/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/28/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	4:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/28/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/28/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/28/2011	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/28/2011	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/29/2011	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
11/29/2011	6:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	9:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/29/2011	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/29/2011	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
11/29/2011	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/29/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/29/2011	11:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/30/2011	12:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/30/2011	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/30/2011	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/30/2011	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/30/2011	4:00:00 AM	1.94	2.5	0.56	1.28	573.4
11/30/2011	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/30/2011	6:00:00 AM	1.92	2.5	0.58	1.35	604.6

11/30/2011	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
11/30/2011	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
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11/30/2011	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	5:00:00 PM	1.94	2.5	0.56	1.28	573.4
11/30/2011	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	9:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
11/30/2011	11:00:00 PM	1.94	2.5	0.56	1.28	573.4